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PART B

SOLAR - GEOPHYSICAL DATA

ISSUED
DECEMBER 1961

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 208
PART B

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
31 Dec. 1961

SOLAR - GEOPHYSICAL DATA

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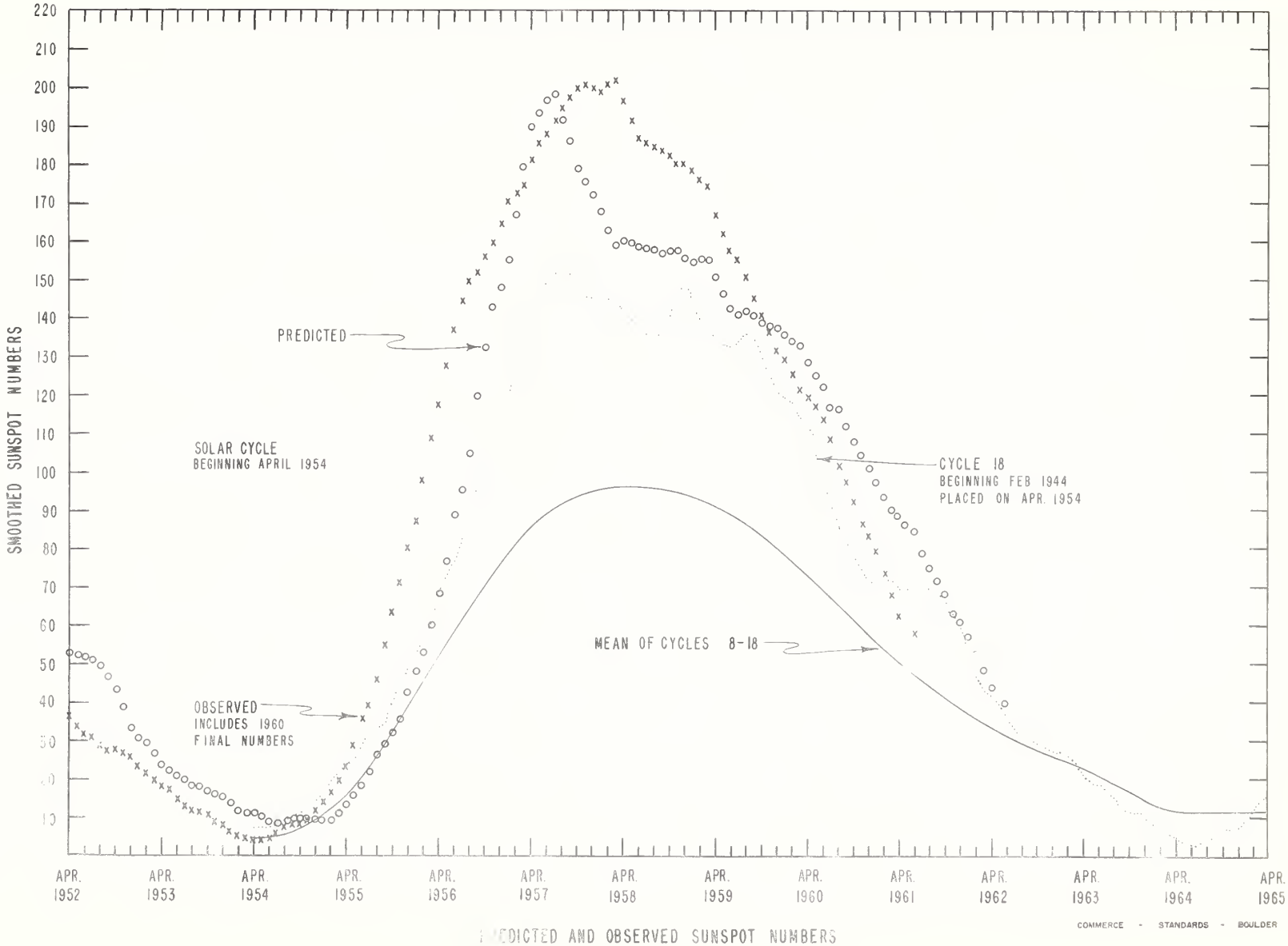
The descriptive text was republished November 1961.

Oct. 1961	American Relative Sunspot Numbers $R_{A'}$
1	37
2	54
3	48
4	45
5	40
6	32
7	25
8	23
9	36
10	47
11	50
12	53
13	50
14	48
15	41
16	40
17	24
18	28
19	41
20	48
21	15
22	5
23	3
24	11
25	8
26	1
27	7
28	12
29	13
30	7
31	2
Mean:	28.8

Nov. 1961	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	0	86
2	0	83
3	0	81
4	10	82
5	17	87
6	20	87
7	46	93
8	48	99
9	67	98
10	67	101
11	53	99
12	50	94
13	49	91
14	48	86
15	47	80
16	24	86
17	11	83
18	17	79
19	10	77
20	15	80
21	26	83
22	24	84
23	7	87
24	16	87
25	26	92
26	31	93
27	31	95
28	34	98
29	47	98
30	68	104
Mean:	30.3	89.2

COMMERCE - STANDARDS - BOULDER



PREDICTED AND OBSERVED SUNSPOT NUMBERS

CALCIUM PLAGE AND SUNSPOT REGIONS

NOVEMBER 1961

CMP Nov. 1961	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values Area	Int.	History, Age		CMP Values Area	Count	History
03.6	N14	6264	6240	1500	3	i / f	4	50	4	b ⌒ f
05.4	N12	6265	6249	1400	2	f / f	2	(130)	(4)	b ⌒ f
07.0	N23	6269	New	(400)	(3)	b ⌒ i	1	(10)	(1)	b ⌒ d
07.7	S12	6266	*	3300	3	i / f	3	90	3	b ⌒ f
08.8	N15	6267	6247?	900	2	f / i	3			
10.2	N19	6270	**	900	3	b ⌒ f	1	190	6	b ⌒ f
12.7	N18	6268	6250	2200	2.5	i — f	2			
15.3	N10	6271	6254	2100	3	f — f	2	180	1	f / f
15.8	N20	6272	6254	400	2	i ⌒ d	2			
17.0	N08	6273	6255	900	3	i — f	3	(320)	(2)	b ⌒ f
18.8	N11	6275	New	100	2	b ⌒ d	1			
19.6	S19	6276	6256	700	1	f — f	2			
20.5	N19	6274	6257	1800	2	i — i	2			
22.0	N09	6277	6261	400	2	f ⌒ d	1			
23.8	N08	6279	6262	400	2.5	f ⌒ d	3			
26.1	N10	6278	6262	1200	2.5	i ⌒ d	3	20	1	f ⌒ d
26.7	S20	6283	New	(500)	(2.5)	b ⌒ d	1			
30.4	N12	6280	6264	2400	3	f — f	5	300	8	f ⌒ d

* 6245, 6246.

** New, in position of 6258.

COMMERCE - STANDARDS - BOULDER

FINAL CORONAL LINE EMISSION INDICES

JULY 1961

CMP Jul 1961	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	x	x	18a	28a	x	x	9a	24a	31	64	15	24	56	87	24	38
2	33	62	23a	26a	37	92	18a	26a	73	112	12	18	21	22	12	20
3	x	x	x	x	x	x	x	x	49	66	16	51	51	73	13	39
4	x	x	x	x	x	x	x	x	x	x	8	11	x	x	12	25
5	75	144	22	42	66	136	12	23	15	22	18	24	72	132	11	20
6	58	81	12	41	11	26	7	12	23	28	0	0	60	84	3	8
7	118	158	19	42	57	94	5	8	30	47	6	7	73	104	11	13
8	74	106	18a	40a	40	84	1a	4a	54	72	0	0	36	46	0	0
9	48	62	17	24	64	146	14	32	47	58	0	0	48	60	0	0
10	x	x	16a	42a	x	x	4a	12a	46a	62a	11	16	28a	45a	13	16
11	52	70	23	40	27	42	15	16	42	70	5	11	38	64	0	0
12	74	106	15	28	79	126	16	26	42	71	18	26	25	51	7	8
13	67	98	11	16	92	252	23	36	x	x	x	x	x	x	x	x
14	58	81	x	x	98	224	x	x	75	110	14	30	45	57	4	8
15	44	50	16	40	53	81	20	32	x	x	x	x	x	x	x	x
16	58	73	18	32	39	64	18	27	10	12	5	6	12	18	7	10
17	58	68	9	20	47	56	8	12	36	55	8	11	45	88	11	19
18	x	x	11	23	x	x	20	27	61	82	13	23	50	75	15	25
19	87	106	17	24	65	146	17	44	x	x	x	x	x	x	x	x
20	72	92	9	24	52	92	9	36	x	x	x	x	x	x	x	x
21	78	93	14	22	73	98	12	20	x	x	x	x	x	x	x	x
22	57	104	17	36	57	115	5	14	52	70	14	29	26	44	11	20
23	63	77	10	19	71	102	6	16	46	77	11	28	49	66	20	31
24	51a	73a	25	48	36a	73a	19	32	19	37	19	34	37	45	11	21
25	68	107	9	15	34	53	4	15	29	45	0	0	45	57	0	0
26	59	74	9	15	23	27	9	15	x	x	x	x	x	x	x	x
27	x	x	x	x	x	x	x	x	10	21	11	13	29	37	12	16
28	x	x	14	21	x	x	11	14	24	47	7	11	26	57	8	15
29	x	x	x	x	x	x	x	x	37	75	5	10	65	74	4	10
30	18	31	7	11	6	13	8	13	13	22	10	12	13	15	5	8
31	40	58	5	9	15	24	6	8	63	84	7	14	45	68	0	0

COMMERCE - STANDARDS - BOULDER

x = no observations

a = index computed from low weight data

* = yellow line observed

FINAL CORONAL LINE EMISSION INDICES

AUGUST 1961

CMP Aug 1961	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	61	96	7	9	14	19	6	9	51	71	1	5	54	79	0	0
2	x	x	x	x	x	x	x	x	27	42	1	6	37	61	0	0
3	x	x	x	x	x	x	x	x	47	65	7	10	67	86	0	0
4	x	x	x	x	x	x	x	x	55	74	0	0	67	80	0	0
5	38	62	9	17	13	18	9	14	38	46	0	0	59	84	0	0
6	38	51	6	8	25	30	2	6	25	34	0	0	17	22	0	0
7	37	52	3	10	21	28	2	5	7	8	19	44	49	83	17	24
8	49	61	0	0	32	45	2	6	69	98	x	x	67	85	x	x
9	x	x	x	x	x	x	x	x	61	67	3	12	50	58	6	13
10	33	47	13	21	44	85	16	18	39	62	x	x	89	108	x	x
11	30	45	20	37	45	87	13	31	50	62	6	8	34	42	13	20
12	79	92	11	18	70	109	2	7	42	70	8	12	62	104	11	24
13	63	104	20	31	34	72	11	32	57	95	x	x	87	146	x	x
14	128	163	21	39	63	98	3	11	62	73	4	12	67	73	7	16
15	152	181	10	18	62	139	0	0	150	358	10	16	132	246	25	64
16	118	170	20	26	57	78	0	0	75	154	2	9	103	174	12	24
17	111	126	11	18	70	84	1	4	44	91	10	26	46	60	4	13
18	80	84	14	25	61	83	0	0	46	82	14	25	38	69	8	18
19	97	137	18	27	52	98	8	38	54	76	16	24	42	62	13	24
20	52	84	13	20	36	64	8	19	31	53	17	44	64	90	16	24
21	17	22	6	20	43	53	17	36	29	39	15	24	58	92	18	20
22	71	84	x	x	52	64	x	x	28	40	0	0	61	93	0	0
23	63	68	4	11	44	51	0	0	x	x	x	x	x	x	x	x
24	72	117	x	x	43	68	x	x	13	21	16	20	38	60	18	38
25	40	59	9	12	21	31	6	16	32	52	9	13	37	70	9	15
26	62	116	11	20	53	120	10	16	x	x	x	x	x	x	x	x
27	43	81	x	x	54	123	x	x	61	107	7	15	43	49	1	4
28	53	60	0	0	51	72	2	9	19	24	12	15	24	30	8	10
29	65	98	3	4	25	31	9	12	35	42	4	9	35	56	0	0
30	63	118	0	0	27	52	2	13	20	34	13	16	37	48	8	12
31	57	82	0	0	37	56	4	17	19	20	11	20	36	48	5	12

COMMERCE - STANDARDS - BOULDER

x = no observations

a = index computed from low weight data

* = yellow line observed

FINAL CORONAL LINE EMISSION INDICES

SEPTEMBER 1961

CMP Sep 1961	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	34	46	6	8	14	18	8	10	20	28	5	8	39	50	7	8
2	34	39	7	8	15	28	9	12	38	48	2	9	63	74	9	18
3	34	53	17	32	21	36	12	20	48	58	x	x	77	105	x	x
4	64	87	27	44	39	76	18	20	28	36	9	12	72	143	21	52
5	78	121	7	19	36	74	0	0	39a	64a	6	12	63a	132a	14	24
6	x	x	x	x	x	x	x	x	42	48	12	16	41	56	14	20
7	41	68	22	35	38	85	9	20	37	62	x	x	29	34	x	x
8	33	40	7	13	34	60	6	10	56	76	10	12	54	87	15	23
9	x	x	x	x	x	x	x	x	36	61	9	10	48	76	13	30
10	131	187	12	25	69	110	0	0	68	90	x	x	89	162	x	x
11	54	68	9	10	30	40	12	18	x	x	x	x	x	x	x	x
12	106	171	16	24	68	160	15	32	67	118	10	15	129	160	12	16
13	121	157	16	36	56	132	17	28	96	124	20	27	98	136	22	50
14	101	123	18	32	42	84	8	16	30	48	13	30	36	45	11	15
15	72	92	11	18	58	90	10	22	25	44	11	18	42	52	12	15
16	106	140	12	30	94	118	8	22	75	104	7	10	114	171	14	28
17	92	142	x	x	66	98	x	x	15	28	6	7	34	50	9	10
18	38	42	16	24	13	22	8	12	24	56	30a	44a	36	50	41a	46a
19	22a	25a	14	16	11a	17a	11	16	13	18	10	16	31	47	x	x
20	50	64	11	16	11	14	9	12	18	45	25	40	37	64	23	32
21	56	84	x	x	17	35	x	x	23	50	17	20	56	78	35	56
22	89	138	16	23	18	47	8	10	51	75	0	0	65	69	10	21
23	24	38	14	15	24	44	11	13	26	50	3	7	41	59	10	22
24	50	55	x	x	65	72	x	x	14a	20a	7a	10a	18a	28a	6a	12a
25	x	x	x	x	x	x	x	x	17	22	12a	16a	22	31	11a	16a
26	36	53	8	11	17	22	6	11	11	14	18	25	18	20	16	20
27	62	88	8	15	45	55	12	18	13	17	34a	48a	32	42	30a	40a
28	13	20	15	20	7	8	12	15	19	22	x	x	36	53	x	x
[illegible]	24	32	16	46	11	16	7	13	9	14	x	x	x	x	x	x
30	121	136	14	23	58	85	10	13	12	22	x	x	53	73	9	14

x = no observations

a = index computed from low weight data

* = yellow line observed

COMMERCE - STANDARDS - BOULDER

PROVISIONAL CORONAL LINE EMISSION INDICES

NOVEMBER 1961

CMP Nov 1961	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	18a	24a	6a	10a	15a	24a	4a	7a	23	28	12	20	22	25	18	28
2	20a	28a	8a	12a	15a	20a	6a	10a	27	36	9a	12a	40	67	20a	60a
3	37a	52a	5a	7a	17a	20a	4a	7a	30a	70a	8a	10a	29a*	40a	6a	10a
4	x	x	x	x	x	x	x	x	19a	28a	17a	20a	64a*	96a	19a	52a
5	x	x	x	x	x	x	x	x	43a	72a	9a	12a	31a*	44a	10a	15a
6	64	84	7a	10a	64	112	5a	5a	78	140	19	28	54	95	23	36
7	62	73	14a	16a	79	140	16a	28a	56	84	11a	14a	38	53	13a	16a
8	x	x	x	x	x	x	x	x	48	62	13	24	58	98	16	28
9	x	x	x	x	x	x	x	x	23	31	5a	5a	54*	87	14a	27a
10	21a	27a	19a	40a	9a	12a	7a	8a	x	x	x	x	x	x	x	x
11	34a	48a	16a	30a	6a	8a	9a	10a	4a	6a	12a	15a	40a	76a	19a	25a
12	54	106	21a	30a	8	11	12a	15a	4a	6a	11a	12a	47a	76a	15a	22a
13	66	123	14a	18a	8	11	6a	8a	x	x	x	x	x	x	x	x
14	118	151	x	x	14	25	x	x	x	x	x	x	x	x	x	x
15	74	120	28	46	11	17	13	16	x	x	x	x	x	x	x	x
16	45	89	10a	12a	13	25	8a	12a	17	22	11	18	49	90	17	28
17	21a	24a	8a	10a	8a	12a	8a	10a	x	x	8a	10a	x	x	7a	10a
18	18a	20a	12a	15a	12a	16a	12a	15a	x	x	x	x	x	x	x	x
19	19a	28a	8a	10a	15a	18a	7a	10a	x	x	x	x	x	x	x	x
20	47	65	16	32	38	70	15	18	9a	17a	x	x	27a	31a	x	x
21	37	53	13a	16a	19	31	13a	16a	15	17	9a	12a	35	39	6a	8a
22	37	47	10a	20a	14	17	12a	18a	x	x	x	x	x	x	x	x
23	20	25	5a	5a	11	14	7a	10a	x	x	x	x	x	x	x	x
24	x	x	x	x	x	x	x	x	8a	8a	11a	12a	14a	22a	12a	20a
25	12a	16a	9a	10a	9a	12a	6a	7a	x	x	x	x	x	x	x	x
26	18a	30a	5a	5a	18a	46a	7a	10a	x	x	x	x	x	x	x	x
27	x	x	x	x	x	x	x	x	24	31	9a	12a	26	31	8a	12a
28	x	x	x	x	x	x	x	x	12a	20a	11a	15a	29a	40a	10a	12a
29	x	x	x	x	x	x	x	x	49	126	21a	32a	57	100	28a	64a
30	67	126	25	40	19	31	7	16	27	48	15	20	64	132	25	48

x = no observations

a = index computed from low weight data

* = yellow line observed

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

NOVEMBER 1961

OBSERVATORY	DATE NOV 1961	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	PROVISIONAL IONOSPHERIC EFFECT
ISTANBUL	05	1010	1040		N10	W22	6264	30 D	1							
KODAIKNL	09	0237	0246	0239	N22	W32	6269	9	1	2	0239	1.70	2.10	1.80	114	
CAPRI S	09	1004 E	1011 D		N12	W80	6264	7 D	1	2	1007	.60	2.20			
CAPRI S	09	1335 E	1346 D		N13	W85	6264	11 D	1	3	1340	1.00	4.50			
SAC PEAK	10	1434	1452	1444	N09	W90	6265	18	1+	3		1.73			28	Slow S-SWF
MCMATH	10	1510 E	1530 D		N07	W90	6265	20 D	1	1						
MCMATH	10	1852 E	1917		N09	E63	6271	25 D	1	1	1853		2.00			
HUANCAYO	10	1853 E	1858 D	1853	N11	E62	6271	5 D	1	1	1858	2.10	4.30	1.80		
SAC PEAK	10	1855 U	1916	1859	N07	E62	6271	21 U	1	3		1.96	2.93		18	
WENDEL	11	1125 E	1136 D		N18	W15	6270	11 D	1				3.00			
WENDEL	11	1213	1252 D		N04	E49	6271	39 D	1+				5.00			
WENDEL	11	1411	1438 D		N17	W15	6270	27 D	1				3.00			
ONDREJOV	12	1257 E	1303		N17	W27	6270	6 D	1	1						
WENDEL	15	0840 E	0858 D		N08	E22	6273	18 D	1				3.00			
WENDEL	15	1046 E	1113 D		N20	W73	6270	27 D	1				4.00			
WENDEL	15	1245 E	1317		N07	E19	6273	32 D	1				3.00			
CLIMAX	16	1603	1620	1608	N20	W90	6270	17	2			2.40	12.00			S-SWF
WENDEL	19	1128	1141		N10	W62	6271	13	1				4.00			
WENDEL	20	1303	1338 D		N09	W75	6271	35 D	1				4.00			
CAPRI S	20	1307 E	1330 D		N09	W70	6271	23 D	1	3	1313	.60	2.20			
ONDREJOV	20	1308 E	1320 D		N08	W80	6271	12 D	1	3	1309			3.20		
ONDREJOV	21	0710 E	0735 D		N10	W54	6273	25 D	1	1						
UCCLE	21	0835 E	0835 D		N10	W57	6273		1	3						
ONDREJOV	21	1331 E	1338	1334	N10	W58	6273	7 D	1	3	1334			2.70		
KODAIKNL	22	0239	0248	0244	N07	W65	6273	9	1+	2	0244	1.70	4.20	2.00	114	
UCCLE	22	0836 E	0900		N07	W70	6273	24 D	1	3						
SALTSJOBADN	22	1034 E	1215 D	1049	N08	W68	6273	101 D	1	2	1049	3.00	7.50			
UCCLE	22	1139	1154	1143	N07	W70	6273	15	1	3	1143	1.50	3.00			
ONDREJOV	22	1142 E	1202 D	1144	N10	W70	6273	20 D	1	3	1144			3.80		
HUANCAYO	22	1442 E	1454	1444	N09	W73	6273	12 D	1+	2	1444	1.20	3.50	4.00		
SAC PEAK	22	2012	2044	2016	N09	W79	6273	32	2	3		3.90	8.91		27	Slo s-SWF
KODAIKNL	23	0445	0452	0447	N07	W75	6273	7	1	2	0447	.60	2.90	2.40	114	
WENDEL	23	0742 E	0757		N11	W86	6273	15 D	1				3.00			
KODAIKNL	23	0748	0753	0750	N07	W77	6273	5	1	2	0750	.60	2.90	2.00		
WENDEL	23	1008 E	1022		N11	W88	6273	14 D	1				3.00			
LOCKHEED	23	1924	2005	1945	N06	E90	6280	41	1	2	1945	.40	2.00		20	
LOCKHEED	23	2105	2131	2114	N05	E90	6280	26	1	2	2114	.40	2.00		20	
LOCKHEED	23	2151	2248	2216	N06	E90	6280	57	1	2	2216	.40	2.00		20	
WENDEL	26	1206	1220		N06	E03	6278	14	1				3.00			

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

NOVEMBER 1961

OBSERVATORY	DATE NOV 1961	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX PHASE	LOCATION APPROX LAT.	LOCATION APPROX MER DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND	MEASUREMENTS TIME — U.T.	MEASUREMENTS MEAS. AREA Sq Deg	MEASUREMENTS CORR AREA Sq Deg	MEASUREMENTS MAX WIDTH Ha	MEASUREMENTS MAX INT %	PROVISIONAL IONOSPHERIC EFFECT
HONOLULU	30	2048 E	2138	2058	N08	E06	6280	50 D	1	2	2058	3.10	3.10			
HUANCAYO	30	2100 E	2112 D	2108	N06	E11	6281	12 D	2	1	2112	2.60	2.70	2.60		
SAC PEAK	30	2121 E	2152 D	2121 U	N07	E07	6281	31 D	1	1		4.76	4.76			

COMMERCE - STANDARDS - BOULDER

ATHENS	ATHENS, GREECE
BAKOU	PIRCULI, USSR
CAPETOWN	ROYAL OBSERVATORY, CAPE OF GOOD HOPE
CAPRI F	CAPRI, ITALY (GERMAN)
CAPRI S	CAPRI, ITALY (SWEDISH)
CRIMEE	SIMEIZ, USSR
HERSTMONCEU	ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX, ENGLAND
HONOLULU	HAWAII, USA
IKOMASAN	KYOTO, JAPAN
KIEV KO	KIEV GAO, USSR
KIEV KY	KIEV UNIVERSITY, USSR
LOCKHEED	LOS ANGELES, CALIF., USA
MCMATH	MCMATH-HULBERT PONTIAC, MICH., USA
MOSCOU	MOSCOW-GAISH, USSR
NERA	NEDERHORST den BERGH, NETHERLANDS
NIZMIR	KRASNAYA PAKHRA, USSR
SAC PEAK	SACRAMENTO PEAK, N.MEX., USA
SALTSJOBADEN	STOCKHOLM, SWEDEN
SCHAUINS	SCHAUINSLAND, GFR
TACHKENT	TASHKENT, USSR
WENDEL	WENDELSTEIN, GFR

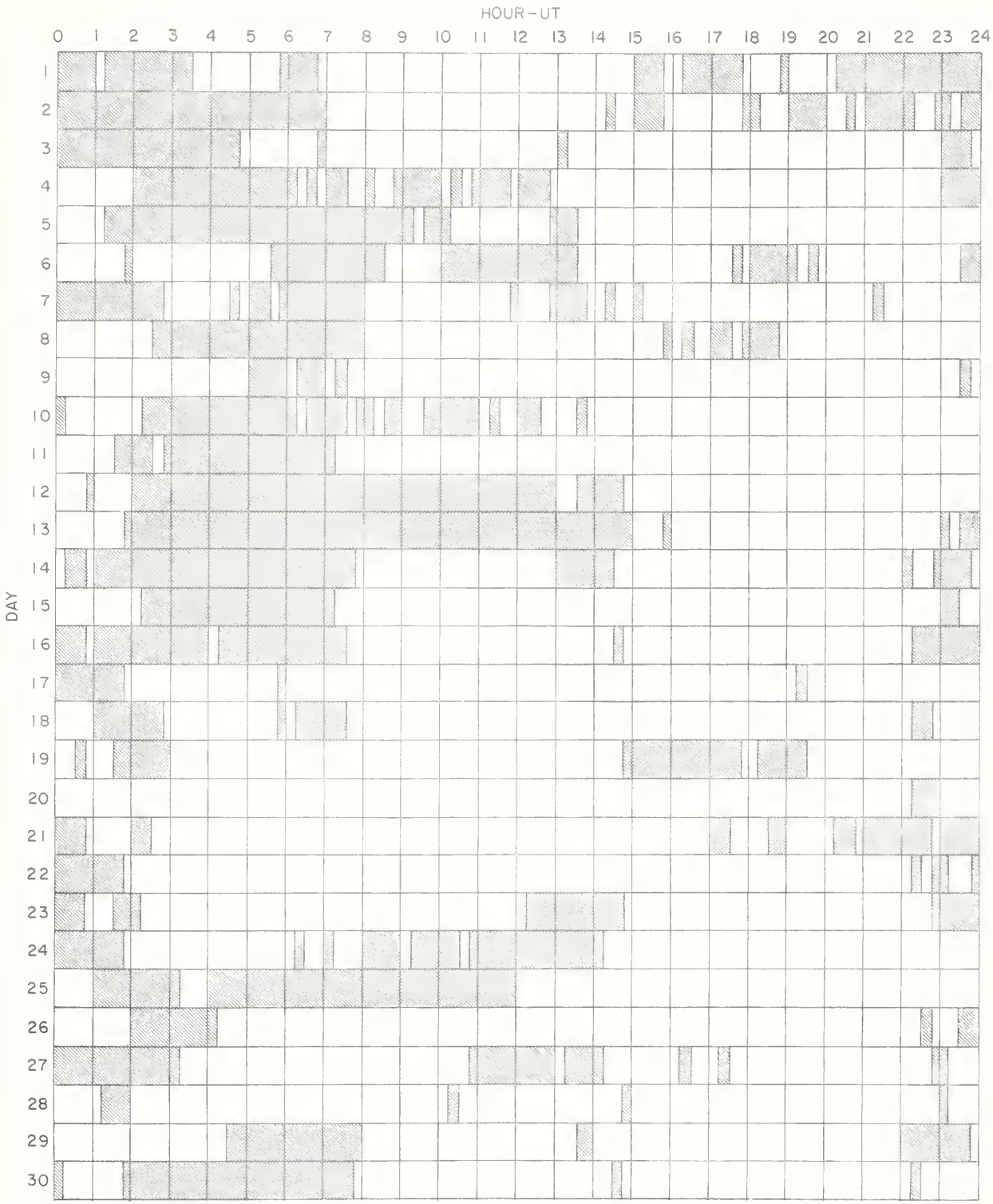
ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40) NOT PERCENT OF CONTINUOUS SPECTRUM.

SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK

E = LESS THAN D = GREATER THAN U = APPROXIMATE ☐ = NOT REPORTED.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

NOVEMBER 1961



Stations Include:

Capri S	Honolulu	Kodaikanal	Sacramento Peak
Climax	Huancayo	McMath-Hulbert	Uccle
Herstmonceux	Istanbul	Ondrejov	Wendelstein

SUBFLARES

Noted as follows: Date - Universal Time - Coordinates

OCTOBER 1961

CAPRI S	01	1030	N14 E15
MCMATH	02	1435	N15 W01
CAPRI S	02	1438 E	N14 E00
WENDEL	03	0839 E	N17 W60
WENDEL	03	0719 E	N14 W60
MCMATH	03	2045 E	S13 E04
SAC PEAK	03	2056	N16 W19
MCMATH	03	2100	N13 W20
KODAIKNL	04	0311 E	S13 E03
MEUDON	04	0822 E	S13 W00
WENDEL	04	0905 E	S13 W02
MCMATH	04	1305 E	S13 W06
MCMATH	04	1310	N13 W28
MCMATH	04	1538	N13 W29
SAC PEAK	04	1540	N15 W28
MCMATH	04	1616	S13 W09
HUANCAYO	04	1845 E	N07 W51
MCMATH	04	1849 E	N05 W57
WENDEL	05	1115 E	S12 W20
MCMATH	05	1659	S14 W22
MCMATH	05	1750	S14 W23
WENDEL	06	0756 E	N18 E21
WENDEL	06	1108 E	S13 W29
MCMATH	07	1239	N12 W70
MCMATH	07	1241	S15 W46
MCMATH	07	1801	N12 W73
MCMATH	07	2014	N12 W75
HONOLULU	07	2016	N15 W74
MCMATH	08	1720	N11 W19
MCMATH	08	1740	N11 E61
MCMATH	08	1930 E	N12 W18
MCMATH	08	2013 E	N04 E04
MCMATH	09	1234 E	N05 W05
MCMATH	09	1309	N05 W07
MCMATH	09	1313	N16 E88
MCMATH	09	1343	N16 E88
MCMATH	09	1405	N05 W05
MCMATH	09	1512	N05 W08
MCMATH	09	1625	N05 W09
MCMATH	09	1812	N05 W10
HONOLULU	09	1822 E	N04 W09
KODAIKNL	10	0427 E	N04 W15
WENDEL	10	0756 E	N06 W15
MCMATH	10	1220 E	N15 E78
HERSTMONCEU	10	1230 E	N11 E34
MCMATH	10	1315	N15 E78
MCMATH	10	1755	N15 E75
WENDEL	11	0908 E	N12 E22
WENDEL	11	0947 E	N12 E22
WENDEL	11	1217 E	N17 E64
WENDEL	11	1343 E	N21 E61
WENDEL	11	1523 E	N08 W33
HONOLULU	11	2306	N18 E56
WENDEL	12	1014 E	N17 E56
WENDEL	12	1022 E	N14 E08
CAPRI S	12	1044 E	N14 E08
SAC PEAK	12	1416	S07 W10
MCMATH	12	1417	S09 W10
CAPRI S	12	1419 E	S07 W10
HUANCAYO	12	1423	S08 W08
WENDEL	12	1515 E	S08 W10
MCMATH	12	2005	N13 E04
HONOLULU	12	2008	N15 W01
SAC PEAK	13	1826	N15 W08
WENDEL	14	0833 E	N12 E15
WENDEL	14	0907 E	N20 E28
CAPRI S	14	1040 E	N12 E75
CAPRI S	14	1200 E	N12 E74
CAPRI S	14	1245 E	N12 E74
CAPRI S	14	1344 E	N12 E74
WENDEL	14	1441 E	N17 E21
WENDEL	14	1517 E	N21 E24
WENDEL	14	1533 E	N13 W20
SAC PEAK	14	2154	N12 W25
WENDEL	15	1201 E	S09 W54
SAC PEAK	15	1418	S07 W54
WENDEL	15	1423 E	S07 W55
CAPRI S	15	1423 E	S06 W52
WENDEL	15	1436 E	N16 E60
WENDEL	16	0707 E	N14 W43
ONDREJOV	16	0710	N09 W47
ONDREJOV	16	0936 E	N13 W45
WENDEL	16	0937 E	N13 W49
ONDREJOV	16	1305 E	N09 W50
MCMATH	16	1315	N12 E46
MCMATH	16	1452	N12 E46
CAPRI S	17	1116 E	S20 E90
MCMATH	17	1730	S19 E90
MCMATH	18	1442	N17 W32
MCMATH	18	1816	N15 E16
MCMATH	18	1919	N18 E73
MCMATH	18	2013	S09 E80
MCMATH	18	2057	S09 E80
MCMATH	19	1500	N17 E60
SAC PEAK	19	2000	S05 W10
SAC PEAK	19	2200	N16 W63
ARCETRI	20	0905 E	S07 E53
SAC PEAK	20	1748	N12 W13
SAC PEAK	20	1918	N15 W75
WENDEL	22	0954 E	N16 E18
WENDEL	22	1041 E	N16 E17
HONOLULU	22	2012 E	S18 E21
WENDEL	24	1059 E	S07 E01
SAC PEAK	24	1848	S07 W04
KODAIKNL	26	0746 E	N03 E44
KODAIKNL	26	0824 E	N02 E40
WENDEL	27	0824 E	N11 W06
SAC PEAK	28	2122	N12 W34

SOLAR FLARES

JULY 1961

OBSERVATORY	DATE JULY 1961	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
NIZMIR	01	0815	0846	0822 U	N07	W41	6155	31	1			1.34			85	
KIEV KO	02	1128 E	1200 D	1130 U	N05	W53	6155	32 D	1+	1	1130	2.58			74	
KIEV KO	07	1331 E	1355 D	1336 U	N12	W10	6164	24 D	1+	1	1336	4.13			63	
KIEV KO	08	1058 E	1110 D	1101 U	N15	E78	6170	12 D	1	1	1101	2.06			60	
KHARKOV	08	1100 E	1116 D		N19	E80	6170	16 D	1	1	1101	1.13	4.40	1.90		
BAKOU	11	0817 E	0958 D	0939	S06	E35	6171	101 D	1	1		3.65			54	
MOSCOU	11	1146 E	1157 D		N15	W68	6164	11 D	□	1						
KIEV KO	11	1332 E	1338 D		S08	E35	6171	6 D	1+	1	1338	3.09			110	S-SWF
ALMA ATA	12	0435	0500	0441	N16	W82	6164	25	1			.72			66	
ALMA ATA	12	0457	0556	0501	S08	E27	6171	59	1			2.17			75	
TACHKENT	12	0505	0554	0512	S08	E27	6171	49	1	3	0515		2.40	2.70	110	
KIEV KO	12	0748 E	0810 D		S07	E26	6171	22 D	1+	1	0748	5.16			77	
KIEV KO	12	0922 E	0950 D	0930 U	S08	E26	6171	28 D	1+	1	0930	5.16			84	
KIEV KO	12	1030 E	1230 D		S08	E25	6171	120 D	3	1	1030	25.78			250	S-SWF
KHARKOV	12	1130 E	1215 D		S05	E17	6171	45 D	1	2	1155	3.40	3.60	1.90		
TACHKENT	13	0315 E	0502	0326	S05	E08	6171	107 D	1	3	0326		3.50	2.10	85	
KHARKOV	13	0700 E	0704 D		S03	E08	6171	4 D	1	1	0704	5.67	5.90	1.40		
BAKOU	13	0834 E	0935 D	0906	S05	E05	6171	61 D	1+	1		7.29			57	S-SWF
KHARKOV	13	0920 E	0950 D		S03	E05	6171	30 D	1	1	0920	1.13	1.20	1.30		
VOROSHILOV	13	2300 E	2340		S03	W04	6171	40 D	1	1	2303	3.05			60	
TACHKENT	14	0254 E	0600 D		S06	W01	6171	186	1	3	0255	2.46	3.00	2.70	110	
TACHKENT	14	0311	0322	0315	S09	E88	6174	11	1	3		.36	2.80			
KHARKOV	14	0851 E	0916 D		S04	W06	6171	25 D	1	1	0851	3.40	3.50	1.50		
KIEV KO	14	1021 E	1040 D		S04	W06	6171	19 D	1	1	1030	2.06			67	
ABASTUMANI	15	0550	0707	0655 U	S07	W14	6171	77 D	1	3		2.25	2.40		68	
KIEV KO	15	0701 E	0710 D		S07	W16	6171	9 D	1	1	0701	2.58			77	
KHARKOV	15	1041 E	1144 D		S06	W29	6171	63 D	1	1	1043	2.27	2.50	1.90		
KIEV KO	15	1120	1133	1128	S05	W20	6171	13	1+	1	1128	5.16			110	
MOSCOU	15	1123 E	1135		S05	W21	6171	12 D	1	2	1129	2.63	2.84	2.47	150	
KHARKOV	16	0750 E	0849 D	0821	S05	W29	6171	59 D	1	1	0822	4.54	5.40	2.70		
KHARKOV	16	0955 E	1119 D		S05	W32	6171	84 D	1	1	1112	3.40	4.10	1.90		
VOROSHILOV	17	0026	0036 D	0029	S05	W41	6171	10 D	1+	1		2.78			98	
TACHKENT	17	0218 E	0600 D		S06	W45	6171	222 D	1		0304	2.00	2.90	3.10	115	S-SWF
KHARKOV	17	0757 E	0926		S05	W46	6171	89 D	3	3	0804		28.60	2.00		Slow S-SWF
ABASTUMANI	18	0502	0823	0808	S08	W60	6171	201 D	2	3		3.60	7.70		94	
TACHKENT	18	0503 E	0515	0505	S06	W58	6171	12 D	1+		0504	4.10		5.50	180	S-SWF
KIEV KO	18	0510 E	0520 D		S08	W60	6171	10 D	1	1	0510	2.06			98	
NIZMIR	18	0805	0842	0809	S08	W59	6171	37	2			4.54			180	
KHARKOV	18	0809 E	0839 D		S09	W60	6171	30 D	2	3	0812	6.91	12.60	2.40		
KIEV KO	18	0810 E	0830 D		S07	W61	6171	20 D	1+	1	0810	3.09			136	S-SWF

SOLAR FLARES

JULY 1961

OBSERVATORY	DATE JULY 1961	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT.	MER. DIST	M:MATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS COND	MEASUREMENTS TIME U T	MEAS AREA Sq Deg	CORR. AREA Sq. Deg	MAX. WIDTH Ha	MAX. INT %	PROVISIONAL IONOSPHERIC EFFECT
BAKOU	18	0813	0840	0816	S04	W59	6171	27	2	2		6.38			65	
CRIMEE	18	0814 E	0823	0814	S07	W55	6171	9 D	1+	1						
NIZMIR	18	0929	1206	1001	S11	W59	6171	157	3+		1001	21.66			240	
NIZMIR	18	0929	1206	0947	S11	W59										S-SWF
NIZMIR	18	0929	1206	1020	S11	W59										
BAKOU	18	0930	1105	1014	S07	W60	6171	95	3	2		15.05			79	
KHARKOV	18	0931	1200	0952	S08	W62	6171	149	3+	3	0952	26.33	56.90	4.10		
MOSCOU	18	0944 E	1106	1000	S10	W63	6171	82 D	3+		1010	23.65	53.40	7.50	300	
CRIMEE	20	0718	0736	0721	S10	W85	6171	18 D	1	1	0721	1.35			84	S-SWF
ALMA ATA	22	0526	0545	0531	N13	W75	6172	19	1			.72			57	
TACHKENT	24	0410	0602	0508	N13	E18	6178	112	3		0458	27.16	28.70	3.10	90	
ALMA ATA	24	0410	0612	0503	N12	E19	6178	122	2			6.67			100	Slow S-SWF
ALMA ATA	24	0410	0612	0503	N17	E18										
ALMA ATA	24	0410	0612	0503	N19	E18										
ALMA ATA	24	0507	0514	0511	N09	E11	6178	7	1			.90			88	
KHARKOV	24	0854	1016 D	0859	N06	E12	6178	82 D	1+	2	0859	6.81	7.00	1.50		
NIZMIR	24	0904 E	0945	0904	N12	E12	6178	41 D	1			1.80			95	
NIZMIR	24	0904 E	0945	0914	N09	E13			1			4.50				
KIEV KO	24	0910 E	0938 D		N12	E11	6178	28 D	1	1	0910	2.06			84	
NIZMIR	25	0801	0803 D	0802 U	N07	W01	6178	2 D	1		< 0805	1.03			95	
BAKOU	27	0628	0651	0634	N07	W27	6178	23	1+	1		5.93			52	
KIEV KO	27	0955 E	1535 D		N08	W90	6175	340 D	□	1	1212	4.13				
TACHKENT	28	0248 E	0431		N13	W40	6178	103 D	2		0249	3.61	4.60	4.00	175	S-SWF
ALMA ATA	28	0502	0548	0516	N10	W89	6175	46	1+			.54			88	

COMMERCE - STANDARDS - BOULDER

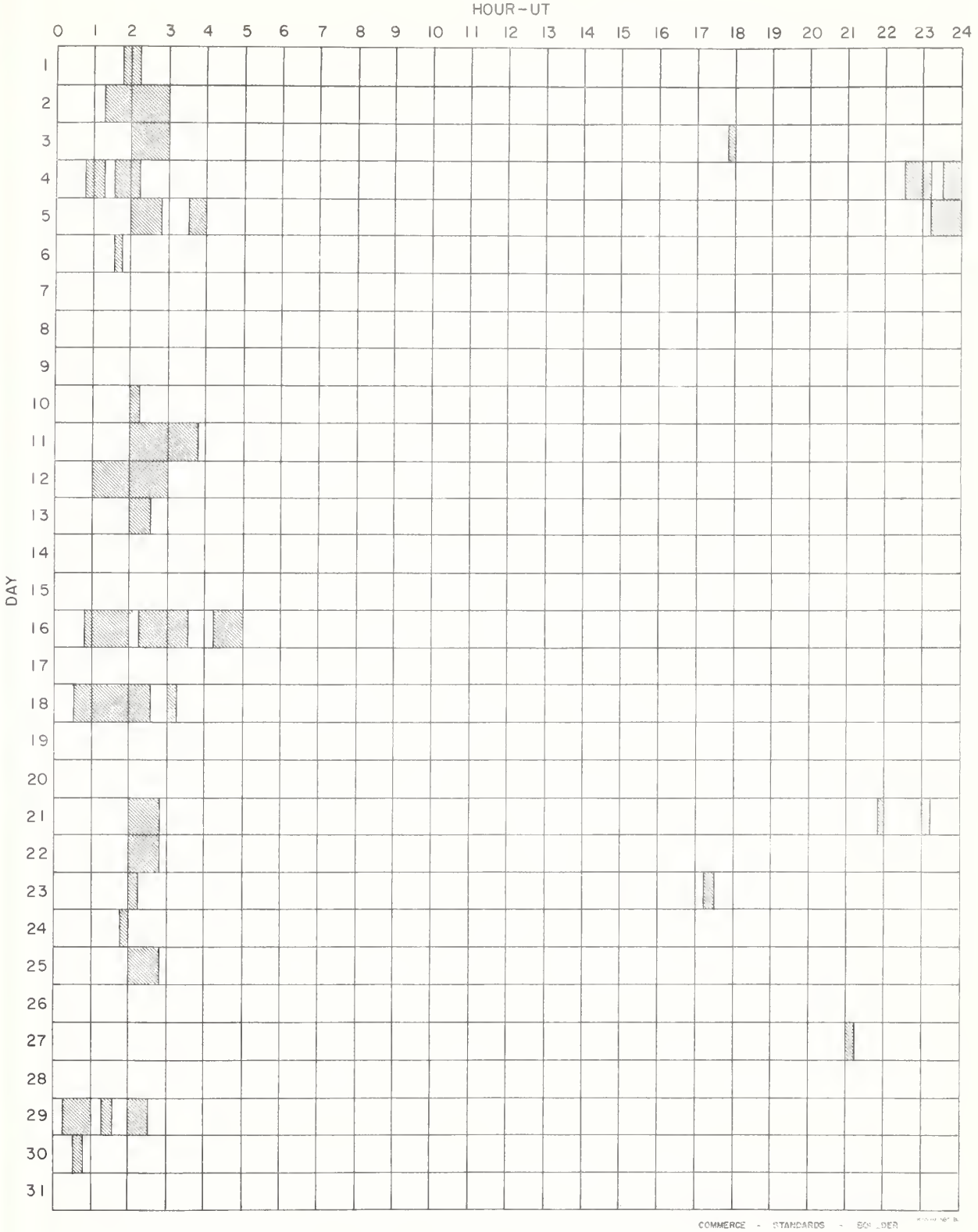
These flare reports are addenda to the July 1961 flares published in CRPL-F 204 Part B, August 1961 also CRPL-F 207 Part B, November 1961

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

JULY 1961

IIIg



COMMERCE - STANDARDS - BOULDER

Stations Include:

Abastumani	Capri S	Kharkov	Moscou	Uccle
Alma-Ata	Climax	Kiev KO	Nizmir	Voroshilov
Arcetri	Crimée	Lockheed	Ondrejov	Wendelstein
Bakou	Herstmonceux	McMath-Hulbert	Ottawa	
Bucharest	Honolulu	Meudon	Sacramento Peak	
Capetown	Ikomasan	Mitaka	Tachkent	

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE AUG 1961	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX PHASE	LOCATION APPROX LAT	LOCATION APPROX MER DIST	LOCATION M. MATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND	MEASUREMENTS TIME U T	MEASUREMENTS MEAS AREA Sq Deg	MEASUREMENTS CORR. AREA Sq Deg.	MEASUREMENTS MAX WIDTH Ha	MEASUREMENTS MAX INT	PROVISIONAL IONOSPHERIC EFFECT
ABASTUMANI	01	0708 E	0732 D	0711	S22	E22	6187	24 D	1	3		2.70	3.40		58	
CAPRI F	01	0711 E	0731		S21	E20	6187	20 D	1	3	0712		3.00			
NIZMIR	01	0715 E	0758	0734	N01	W90	6178	43 D	1			1.34			80	
CAPRI F	02	0542 E	0613		N21	W50	6180	31 D	1	3	0544		3.00			
CAPRI F	03	0700 E	0750	0717	S14	W38	6181	50 D	1	3	0717		3.00			
CRIMEE	03	0722 E	0745	0722	S14	W41	6181	23 D	1	1	0722	1.35			80	
KHARKOV	04	1119 E	1218		N22	W24	6184	59 D	1	3	1139	2.29	2.50	1.20		
CAPRI F	04	1130 E	1136 D		N08	W19	6184	8 D	1	3			3.00			
CAPRI F	04	1601 E	1611 D		S14	W56	6181	10 D	1	2	1602		2.00			
CAPRI F	06	0615 E	0627 D		S13	W82	6181	12 D	1	3	0617		2.00			
NIZMIR	06	0644 E	0705	0644	S11	W90	6181	21 D	1			1.80			50	
CAPRI F	06	0947 E	0957 D		S13	W85	6181	10 D	1	3	0947		2.00			
NIZMIR	07	0909	0925	0916	N12	E90	6190	16	1			1.80			45	
NIZMIR	07	0945 E	0948	0945	N14	E90	6190	3 D	1			.93			50	
	08															
CAPRI F	08	1038 E	1129 D		S06	E11	6191	51 D	1	3	1041		5.00			
CAPRI F	08	1456 E	1525 D		N16	E75	6195	29 D	1	3	1500		4.00			
CAPRI F	09	0605 E	0732 D		N17	W04	6197	87 D	1	3	0607		3.00			
BAKOU	09	0754 E	0803 D	0758	N15	E70	6195	9 D	1	2	0758	1.37	3.77		50	
CAPRI F	09	0755 E	0806		N14	E68	6195	13 D	1	3	0757		4.00			
CAPRI F	09	1407 E	1417		N17	W08	6197	10 D	1	3	1411		3.00			
CAPRI F	09	1436 E	1443		N18	E64	6195	7 D	1	2	1437		4.00			
CAPRI F	10	0547 E	0656 D		N17	W17	6197	69 D	1	3	0555		3.00			
CAPETOWN	10	1215	1235	1221	N16	E55	6195	20	1		1221	2.10	3.60			
CAPETOWN	10	1218	1230	1222	N09	E78	6199	12	1		1222	.70				
CAPRI F	10	1232 E	1242 D		N15	E52	6195	10 D	1	3	1235		2.00			
OTTAWA	10	1433	1448	1440	N10	E80	6199	15	1			1.20	2.80			
CAPRI F	10	1434 E	1449 D	1410	N09	E76	6199	15 D	2	3	1410		7.00			
UCCLE	10	1437	1446	1434	N09	E80	6199	9	1+	3	1439	2.70	8.10			
CAPRI F	10	1510 E	1517 D		N14	E50	6195	7 D	1	3	1514		3.00			
ALMA-ATA	11	0350 E	0410 D	0355	N08	E69	6199	20 D	1	1	0355	.77			50	
CRIMEE	11	0636 E	0646 D	0638	N03	E64	6199	12 D	1	1	0638	1.80			71	
KHARKOV	11	0637 E	0646	0640	N05	E61	6199	9 D	1+	3	0643	2.29	4.50	1.70		
CAPRI F	11	0643 E	0653		N07	E64	6199	10 D	1	3	0645		3.00			
NIZMIR	11	0811 E	0814	0812	N06	E63	6199	3 D	1			.93			90	
CAPRI F	11	0845 E	0917 D		N07	E63	6199	32 D	1	3	0848		3.00			
CAPRI F	11	1015 E	1022 D		N13	E42	6195	7 D	1	3	1018		3.00			
KHARKOV	11	1021 E	1035		N05	E59	6199	14 D	1	3	1021	2.29	4.60	1.20		
CAPRI F	11	1144 E	1152 D		N13	E44	6195	8 D	1	3			3.00			
CAPETOWN	11	1301	1306 D	1303	N09	E61	6199	5 D	1		1303	1.00	2.10			
UCCLE	11	1301	1312	1303	N09	E62	6199	11	1	3	1303	2.00	3.80			
CAPRI F	11	1650	1710 D		N06	E60	6199	20 D	1	3	1655		3.00			

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
					APPROX.		McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX INT %	
	AUG 1961	START	END	MAX. PHASE	LAT.	MER DIST										
CAPRI F	12	0610 E	0636		N06	E49	6199	26 D	1	3	0610		3.00			
KHARKOV	12	0947 E	1119	1055	N19	W47	6197	92 D	1	3	1055	1.71	2.20	1.20		
CAPRI F	12	1010 E	1102 D	1034	N17	W45	6197	52 D	2	3	1034		7.00			
KHARKOV	12	1030 E	1140 D	1036	N14	W46	6197	70 D	1	3	1036	1.71	2.20	1.50		
KHARKOV	12	1100 E	1117	1109	N07	E63	6199	17 D	1	3	1109	2.87	2.80	2.40		
CRIMEE	12	1106 E	1117 D	1109	N07	E48	6199	11 D	1+	2	1109	3.60			72	
CAPETOWN	12	1106	1119	1109	N07	E47	6199	13	1		1109	2.90	4.30			
OTTAWA	12	1106	1120	1109	N06	E48	6199	14	1			2.10	2.50			
KIEV KO	12	1107 E	1119 D	1110	N07	E48	6199	12 D	1+			3.09			110	
CAPRI F	12	1109 E	1120 D		N06	E46	6199	11 D	1+	3	1113		6.00			
CAPRI F	12	1140 E	1232 D		N18	W46	6197	52 D	1	3	1147		4.00			
CAPRI F	12	1437 E	1443		S02	E80	6201	6 D	1	3	1437		3.00			
CAPRI F	12	1623 E	1627 D		N17	W48	6197	4 D	1	3	1627		4.00			
CAPRI F	12	1628	1652 D		N06	E44	6199	24 D	1	3	1633		3.00			
CAPRI F	12	1706	1717 D		N05	E44	6199	11 D	1+	3	1708		6.00			
TACHKENT	13	0330	0410	0344	N05	E39	6199	40	1+	2	0348	5.16	6.00	4.00	155	S-SWF
CAPRI F	13	0625 E	0634 D		N05	E36	6199	9 D	1	3	0627		3.00			
CAPETOWN	13	0903	0917	0906	N06	E36	6199	14	1		0906	1.70	2.10			
CRIMEE	13	0903 E	0919 D	0907	N05	E36	6199	16 D	1	2	0907	2.25			73	
SCHAUINS	13	0940 E	1035 D		N17	E12	6195	55 D	1	3		3.00				
CAPRI F	13	0944 E	0952 D		N16	E05	6195	8 D	1	2	0945		4.00			
CAPRI F	13	1014 E	1027 D		N05	E34	6199	13 D	1	2	1016		3.00			
CLIMAX	13	1351	1404 D	1355	S01	E71	6201	13 D	1			2.40	4.60			
CAPRI F	13	1405 E	1421		N13	E09	6195	16 D	1	3	1408		3.00			
CAPRI F	13	1405 E	1427		S01	E71	6202	22 D	1+	3	1408		6.00			
CAPRI F	13	1410 E	1440		N05	E32	6199	30 D	1	3	1410		3.00			
CAPRI F	13	1420 E	1447 D		N20	W60	6197	27 D	1	3	1427		3.00			
CAPRI F	13	1508 E	1512 D		N05	E36	6199	4 D	1	3	1509		2.00			
CAPRI F	13	1520 E	1542 D		N06	E30	6199	22 D	1	3	1520		5.00			
CAPRI F	13	1607 E	1615 D		N18	W62	6197	8 D	1	3	1607		4.00			
CAPRI F	13	1658 E	1707 D		N05	E29	6199	9 D	1	3	1659		3.00			
CAPRI F	14	0647 E	0652 D		N08	E27	6199	8 D	1	3	0648		4.00			
CAPRI F	14	0730 E	0742 D		N18	W75	6197	12 D	1+	3	0730		6.00			
CAPETOWN	14	0732 E	0811	0744 U	N16	W76	6197	39 D	1		0744	1.00				
CAPRI F	14	0740 E	0742 D		N05	E27	6199	2 D	1	3	0742		3.00			
BAKOU	14	0908	0930	0912	S01	E60	6201	22	1	2	0912	2.73	5.84		56	
CAPETOWN	14	0908	0930	0911	N00	E61	6201	22	1		0911	1.50	3.10			
BAKOU	14	0935	0959	0942	N16	E07	6195	24	1	2	0942	2.28	2.36		56	
CAPETOWN	14	0936	1014	0944	N16	E05	6195	38	1		0944	2.10	2.10			
OTTAWA	14	1415	1705		S08	W69	6191	170	2		1505	3.30	6.00			
CAPRI F	14	1432 E	1702 D	1500	S10	W73	6191	150 D	2	3	1500		8.00			
CAPRI F	14	1710 E	1717 D		N16	W80	6197	7 D	1	2	1703		5.00			
OTTAWA	14	1730	1739	1732	N06	E21	6199	9	1			2.20	2.20			
CAPRI F	15	1037 E	1142 D	1055	N17	W85	6197	65 D	1	3	1056		6.00			
CAPETOWN	15	1040	1115	1050	N18	W90	6197	35	1		1050	.20				
CAPRI F	15	1655 E	1717 D		N12	W19	6195	22 D	1	3	1700		4.00			
CLIMAX	15	1656 E	1714 D		N08	W20	6195	18 D	1		1657	2.40	2.40			
ALMA-ATA	16	0259	0346	0303	N13	W24	6195	47	1+	3	0303	2.06			97	
TACHKENT	16	0304	0350	0304	N13	W25	6195	46	1	3	0315	1.83	2.00	2.60	65	

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE AUG 1961	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT.	MER DIST	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS COND.	MEASUREMENTS TIME U T	MEAS AREA Sq. Deg	CORR AREA Sq. Deg	MAX WIDTH Ho	MAX INT %	PROVISIONAL IONOSPHERIC EFFECT
ALMA-ATA	16	0359 E	0422	0339	N17	W17	6195	23 D	1	3	0339	1.03			58	
ALMA-ATA	16	0455	0527	0500	N17	W27	6195	32	1+	3	0500	6.60			60	
CAPRI F	16	0557 E	0647 D		S04	W24	6194	50 D	1	3	0558		3.00			
CAPRI F	16	1020 E	1037 D		N16	W21	6195	17 D	1	3	1024		5.00			
CAPRI F	16	1257 E	1340 D		N07	W03	6199	43 D	1	3	1300		3.00			
CAPRI F	16	1632 E	1634 D		S01	E26	6201	2 D	2	1	1641		11.00			
CAPRI F	17	1146 E	1212 D		N10	W16	6199	26 D	1	3	1202		3.00			
CAPRI F	17	1330 E	1337 D		S14	E35	6203	7 D	1	3	1333		3.00			
CAPRI F	17	1432 E	1505 D		N06	W17	6199	33 D	1	3	1432		3.00			
TACHKENT	18	0358	0512	0411	N09	W28	6199	14	1	3	0413	2.37	3.00	2.50	85	
CAPRI F	18	0613 E	0637 D		N04	W27	6199	24 D	1	3	0625		3.00			
OTTAWA	18	1253	1400	1310	N09	W35	6199	67	1			3.00	3.30			
CAPRI F	19	0727 E	0747 D		N07	W42	6199	20 D	1	3	0728		3.00			
CAPETOWN	19	0804	0832	0806	N16	W71	6195	28	1		0806	.70				
CAPRI F	19	0818 E	0832 D		N12	W73	6195	14 D	1	3	0820		3.00			
CAPETOWN	19	0900	0925	0906	N16	W71	6195	25	1		0906	.80				
CAPRI F	19	0901 E	0912 D		N12	W73	6195	11 D	1	3	0903		3.00			
CAPETOWN	20	0736	0748	0738	N13	W89	6195	12	1		0738	.30				
ALMA-ATA	22	0256 E	0459	0319	N01	W52	6201	123 D	1	2	0319	1.19			63	
CAPETOWN	22	1037	1342 D	1132 U	N09	W12	6204	185 D	2+		1132	8.90	9.00			
CAPRI F	22	1038 E	1235 D	1136	N06	W15	6204	117 D	2	2	1136		11.00			
KIEV KO	22	1121 E	1156		N10	W13	6204	35 D	1+		1121	7.22			61	
CAPRI F	22	1317 E	1322 D		N09	E58	6208	5 D	1	3	1324		4.00			
CAPRI F	24	1316 E	1342 D		N20	E77	6210	26 D	1	3	1319		5.00			
CAPRI F	25	1405 E	1435 D		N16	E02	6206	30 D	1	3	1407		4.00			
CAPRI F	26	0628 E	0654		N10	E12	6208	26 D	1	3	0642		3.00			
CAPRI F	26	0652 E	0700		N16	W06	6206	8 D	1	3	0655		2.00			
SCHAUINS	26	1616 E	1630 D		N16	W11	6206	14 D	1	2		3.00				
CAPRI F	27	0930 E	0953 D		S15	W10	6207	23 D	1	3	0933		3.00			
CAPRI F	27	1105 E	1115 D		S15	W10	6207	10 D	1	3			3.00			
CAPRI F	28	1125 E	1142 D	1134	N21	W35	6206	17 D	1	3	1137		3.00			
CAPRI F	28	1535 E	1610 D		N18	W37	6206	35 D	1	3	1552		5.00			
CAPRI F	29	1035 E	1135 D		N20	E24	6210	60 D	1	3	1048		5.00			
SCHAUINS	29	1055 E	1110		N18	E17	6210	15 D	1	2		3.00				
CAPRI F	29	1528 E	1605 D		N12	E76	6212	37 D	1	3	1530		3.00			
CAPRI F	30	0632 E	0720 D		N12	E69	6212	48 D	1	3	0642		4.00			
BAKOU	30	0806 E	0935 D	0826	N12	E68	6212	89 D	1	2		1.19			51	
UCCLE	30	0930	0933 D	0933	N20	W72	6206	3 D	1+	3	0933	3.00	6.00			
CAPETOWN	30	0931 E	0959		N18	W63	6206	28 D	2		0935	2.60	5.30			

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION APPROX.		LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Ha	MEASUREMENTS MAX. INT °,	PROVISIONAL IONOSPHERIC EFFECT
	AUG 1961	START	END	MAX PHASE	LAT.	MER. DIST.										
□ SCHAUINS	30	0938 E	0953		N19	W60	6206	15 D	1	2		3.00				
□ CAPRI F	30	0939 E	0957 D		N20	W60	6206	18 D	1	3	0941		5.00			
CAPRI F	30	1340 E	1355 D		N12	E60	6212	15 D	1	3	1345		5.00			
CAPRI F	30	1535 E	1607 D		N20	W65	6206	32 D	1	3	1540		5.00			
CAPRI F	30	1535 E	1607 D		N11	E60	6212	32 D	1	3	1540		3.00			
CAPRI F	31	0714 E	0808 D		N10	E51	6212	54 D	1	3	0716		4.00			
CAPRI F	31	0737 E	0808 D		N19	W71	6206	31 D	1	3	0738		3.00			
□ CAPRI F	31	0828 E	0857 D		N14	W06	6210	29 D	1	3	0830		5.00			
□ SCHAUINS	31	0830 E	0840 D		N20	W06	6210	10 D	1	2		3.00				
□ CRIMEE	31	0901 E	0909	0903	N13	E50	6212	8 D	1	2	0903	.90			84	
□ CAPRI F	31	0913 E	0925		N12	E48	6212	12 D	1	3	0918		4.00			
CAPRI F	31	1137 E	1142 D		N19	W75	6206	5 D	1	3	1140		4.00			
CAPRI F	31	1240	1302 D		N12	E45	6212	22 D	2	3	1244		7.00			
□ SCHAUINS	31	1500	1514		N09	E46	6212	14	1	2		3.00				
□ CAPRI F	31	1505 E	1545 D		N12	E45	6212	40 D	1	3	1507		5.00			

COMMERCE - STANDARDS - BOULDER

These are additions to Flares published in SOLAR-GEO B, September 1961.

E = LESS THAN
D = GREATER THAN
U = APPROXIMATE
□ = NOT REPORTED

CAPRI G	ANACAPRI - GERMAN
CAPRI F	ANACAPRI - SWEDISH
GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV*	KIEV UNIVERSITY
KODAIKNAL	KODAIKANAL
KRASNYA	KRASNAYA PAKHRA
LOCKHEED	LOS ANGELES
MCMATH	MCMATH-HULBERT
MOSCOW-G	MOSCOW - GAISH
R O HERST	ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX
SAC PEAK	SACRAMENTO PEAK
SCHAUINS	SCHAUINSLAND
WENDEL	WENDELSTEIN

ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

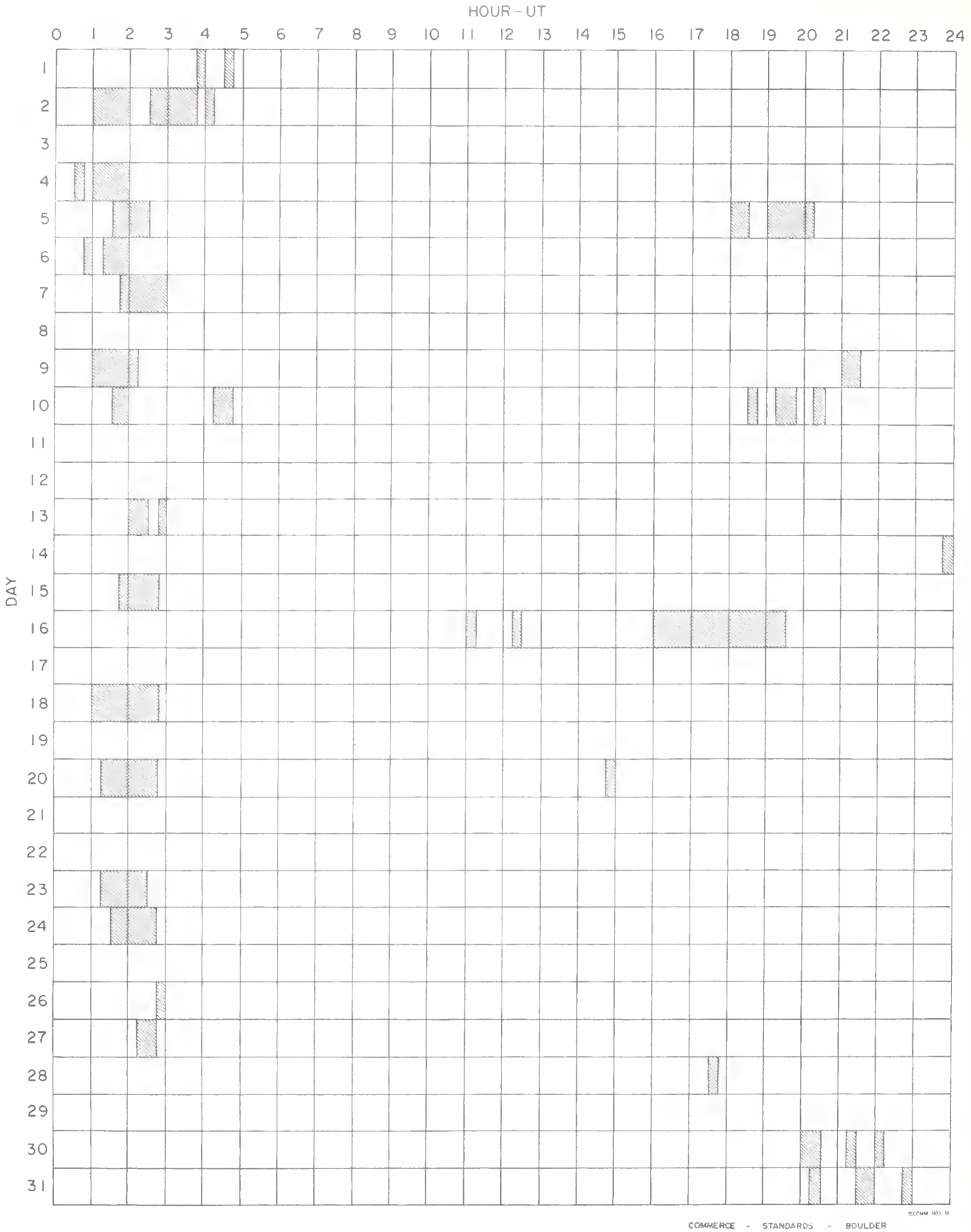
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

IIII

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

AUGUST 1961



COMMERCE - STANDARDS - BOULDER

Stations Include:

Abastumani	Capri S	Ikomasan	McMath-Hulbert	Ottawa
Alma-Ata	Climax	Istanbul	Meudon	Sacramento Peak
Arcetri	Crimée	Kharkov	Mitaka	Tachkent
Bakou	Herstmonceux	Kiev KO	Moscou	Uccle
Bucharest	Honolulu	Kodaikanal	Nizmir	Vorashilov
Capetown	Huancayo	Lockheed	Ondrejov	Wendelstein

SOLAR FLARES

JANUARY — MAY 1961

OBSERVATORY	DATE 1961	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
	JAN.															
KODAIKNL	01	0257 E	0317 D	0257	N10	W39	5977	20 D	1	2		2.20	2.90			
KODAIKNL	17	0445 E	0502 D	0455	S08	W45	5998	17 D	2	3	0459	3.90	5.70	2.40	154	Slow S-SWF
KODAIKNL	27	0436 E	0448 D	0438	N09	E51	6013	12 D	1	3	0437	1.90	2.90	1.60		
KODAIKNL	29	0511 E	0534 D	0528	N05	W37	6009	23 D	1	3	0528	3.90	4.60	1.56		
KODAIKNL	29	0631 E	0636 D	0636	N06	W38	6009	5 D	1	3		3.20	4.20			
KODAIKNL	30	0631 E	0636 D	0632	N10	E11	6013	5 D	1		0632	2.80	3.00	2.10	135	
	FEB.															
KODAIKNL	01	0708 E			N10	W15	6013		1	1		2.60	2.80			
KODAIKNL	08	0235 E	0245 D	0237	S12	E15	6023	10 D	1	2	0237	1.60	1.60	1.44	122	
	MAR.															
KODAIKNL	18	0558 E	0612 D	0607	N04	E16	6059	14 D	1	2	0605	2.50	2.70	1.32	122	
	APR.															
KODAIKNL	06	0200 E	0230 D	0210	N15	W03	6077	30 D	1	2	0210	2.50	2.60	1.56	122	
KODAIKNL	27	0244 E	0315 D	0250	S08	E45	6098	31 D	1	2	0250	1.90	2.70	1.52	114	Slow S-SWF
	MAY															
KODAIKNL	24	0426 E	0501 D	0430	N17	E18	6122	35 D	2	2	0430	6.80	7.60	2.00	154	Slow S-SWF

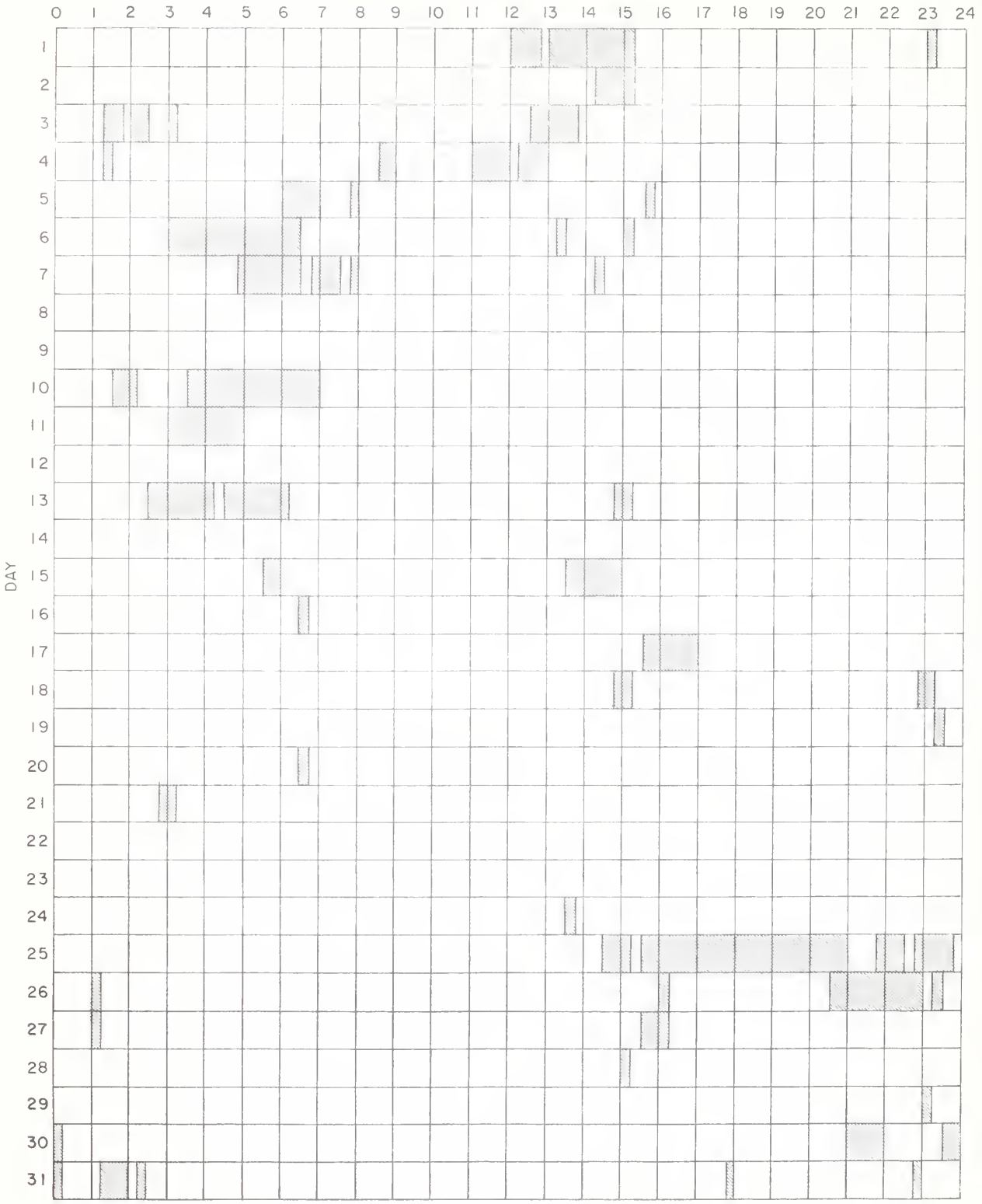
COMMERCE - STANDARDS - BOULDER

These are addenda to flares published in CRPL-F 197 thru 201 Part B, January - May 1961.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

JANUARY 1961



COMMERCE - STANDARDS - BOULDER

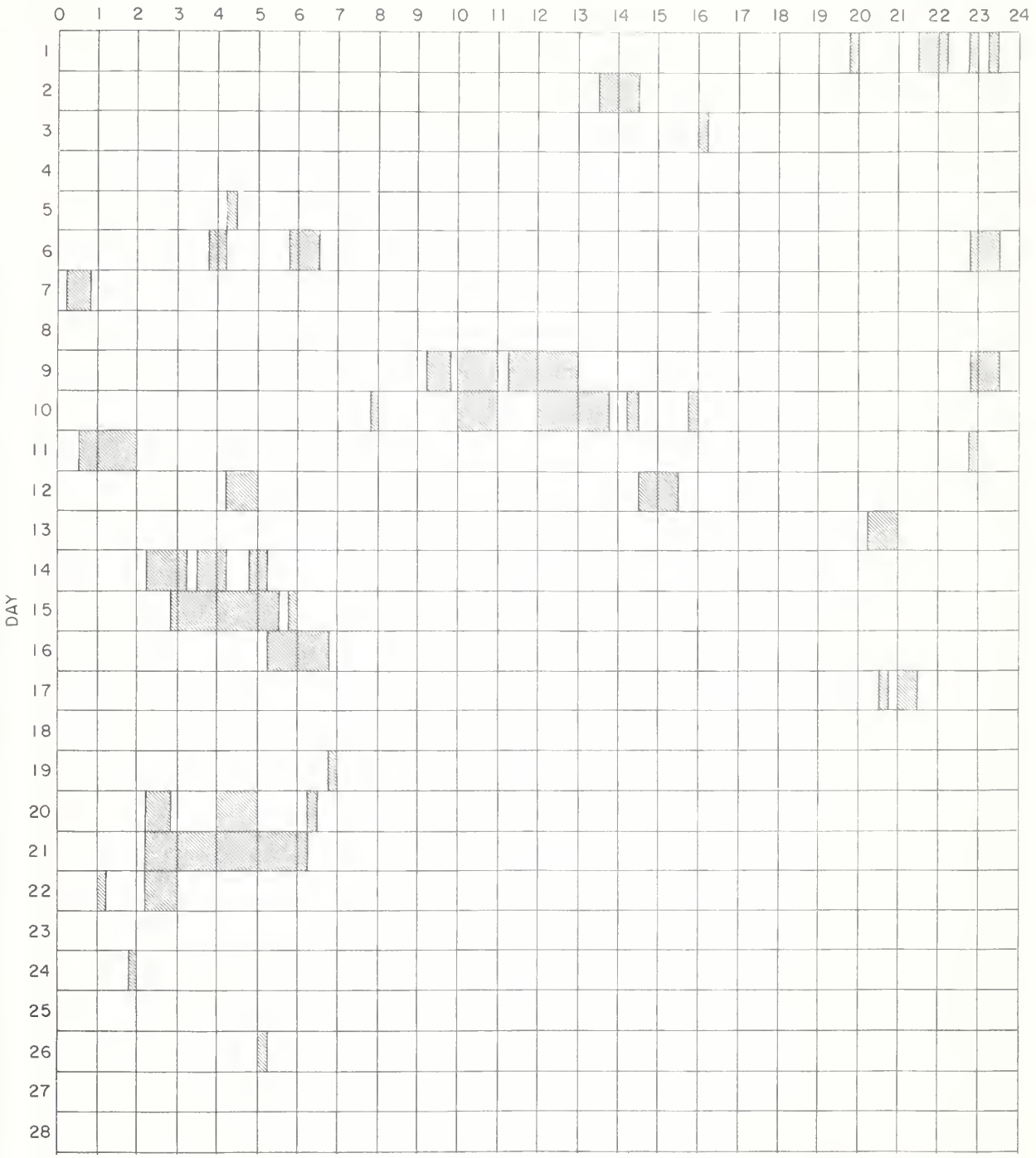
Stations Include:

Alma-Ata	Crimée	Kharkov	Mitaka	Uccle
Arcetri	Herstmonceux	Kiev KO	Nizmir	Varoshilov
Bakou	Honolulu	Kodaikanal	Ondrejov	Wendelstein
Capetown	Huancayo	Lockheed	Ottawa	
Capri S	Ikomasan	McMath-Hulbert	Sacramento Peak	
Climax	Istanbul	Meudon	Tachkent	

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

FEBRUARY 1961



Stations Include:

Abastumani	Climax	Ikomasan	McMath-Hulbert	Sacramento Peak
Alma-Ata	Crimée	Kharkov	Meudon	Tachkent
Arcetri	Herstmoneux	Kiev KO	Mitaka	Uccle
Bakou	Honolulu	Kodaikanal	Ondrejov	Voroshilov
Capetown	Huancayo	Lockheed	Ottawa	Wendelstein
Capri S				

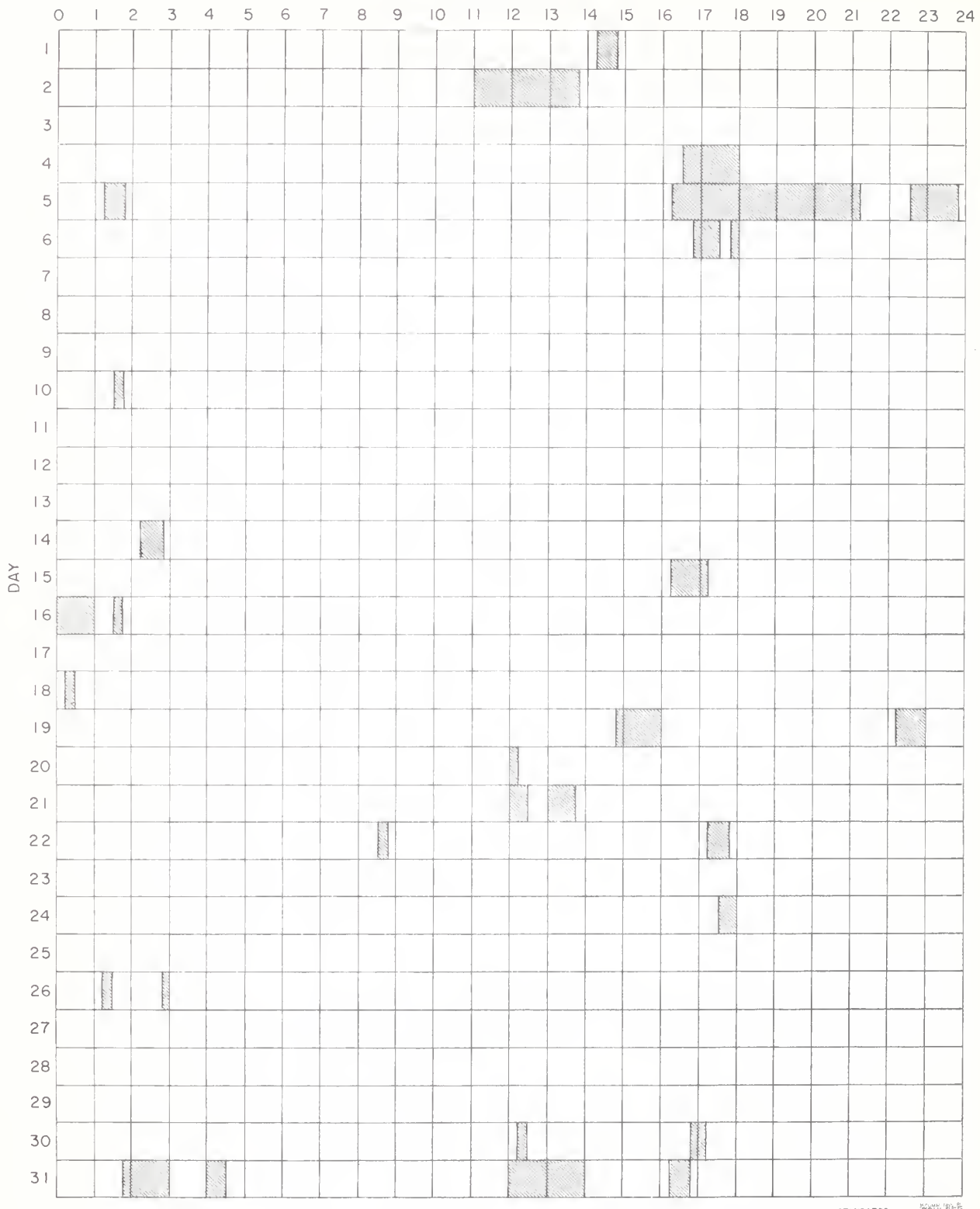
COMMERCE - STANDARDS - BOULDER

IIIp

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

MARCH 1961



COMMERCE - STANDARDS - BOULDER

Stations Include:

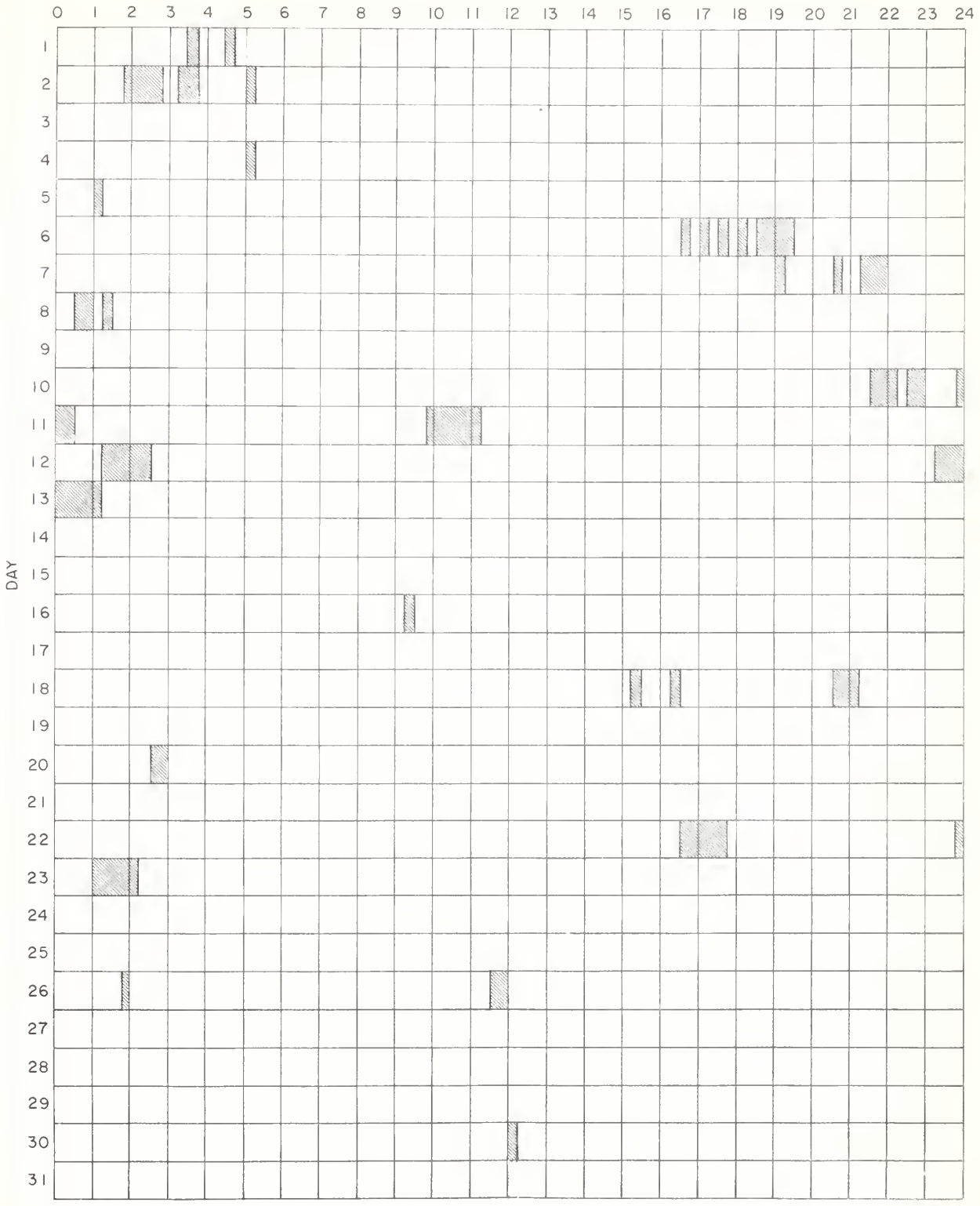
Abastumani	Capri S	Ikomasan	Meudon	Sacramento Peak
Alma-Ata	Climax	Kharkov	Mitaka	Tachkent
Arcetri	Crimée	Kiev KO	Moscou	Uccle
Bakou	Herstmonceux	Kodaikanal	Nizmir	Voroshilov
Bucharest	Honolulu	Lockheed	Ondrejov	Wendelstein
Capetown	Huancayo	McMath-Hulbert	Ottawa	

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

APRIL 1961

IIIq



Stations Include:

Abastumani	Capetown	Huancayo	Lockheed	Ondrejov	Uccle
Alma-Ata	Climax	Ikomasan	McMath-Hulbert	Ottawa	Voroshilov
Arcetri	Crimée	Kharkov	Meudon	Sacramento Peak	Wendelstein
Bakou	Herstmonceux	Kiev KO	Mitaka	Schauinsland	
Bucharest	Honolulu	Kodaikanal	Moscou	Tachkent	

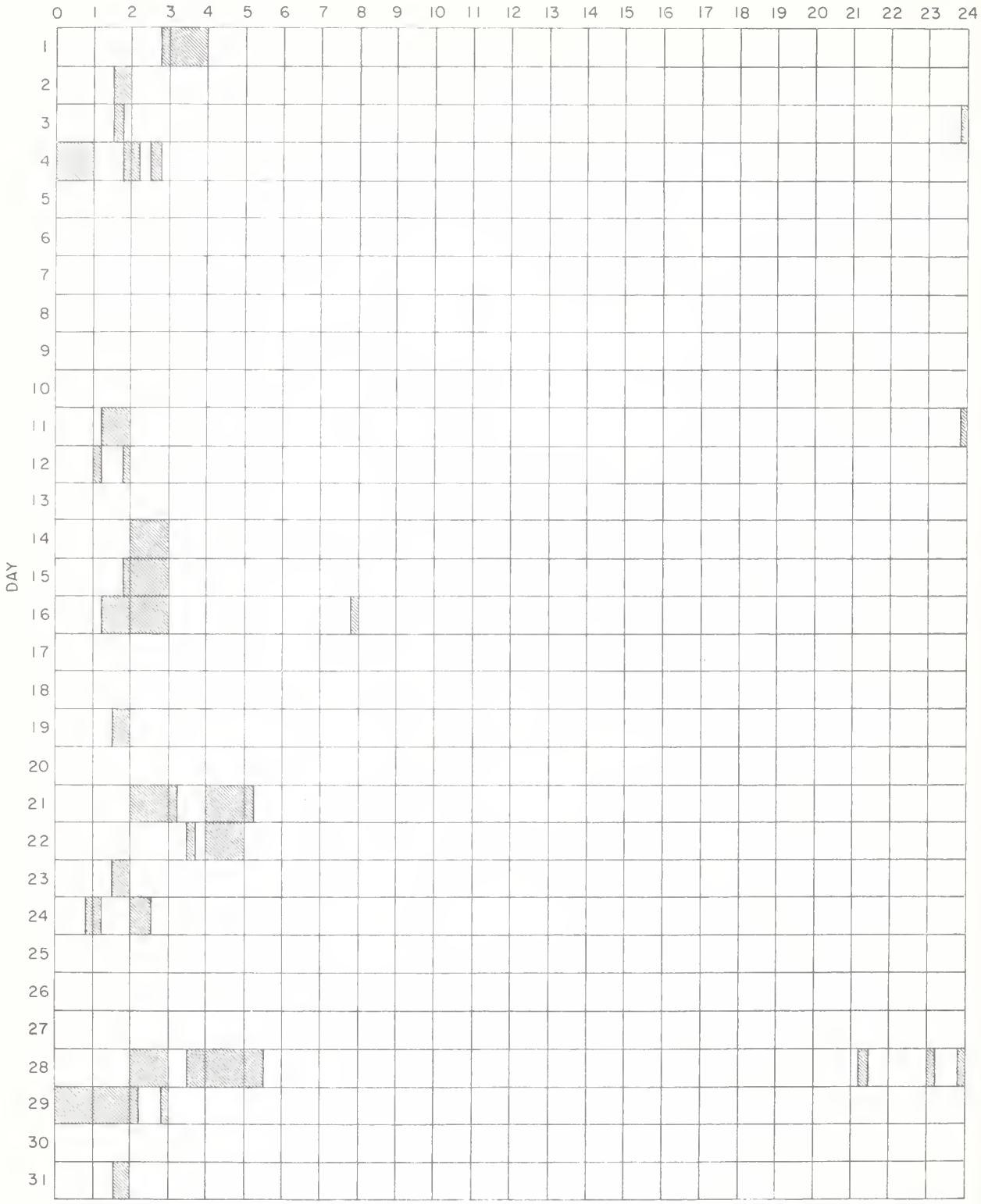
INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

MAY 1961

HOUR – UT

111r



COMMERCE - STANDARDS - NBS-B BOULDER

Stations Include:

Abastumani	Capri S	Ikomasan	Meudon	Sacramento Peak
Alma-Ata	Climax	Kharkov	Mitaka	Tachkent
Arcetri	Crimée	Kiev KO	Moscou	Uccle
Bakou	Herstmonceux	Kodaikanal	Nizmir	Voroshilov
Bucharest	Honolulu	Lockheed	Ondrejov	Wendelstein
Capetown	Huancayo	McMath-Hulbert	Ottawa	

IONOSPHERIC EFFECTS OF SOLAR FLARES

SHORT WAVE RADIO FADEOUTS
SUDDEN COSMIC NOISE ABSORPTION
SUDDEN ENHANCEMENTS OF ATMOSPHERICS
SUDDEN PHASE ANOMALIES
SOLAR NOISE BURSTS AT 18 Mc

OCTOBER 1961

OCTOBER 1961	UNIVERSAL TIME			SWF	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
	START	END	MAX	TYPE IMP	ABS	SCNA	SEA	SPA	BUR			
03	2305	2318	2307		25	1				5	HA BO	
03	2313		2322				1			3	A5 A3	
30	2033	2110	2045				2			5	A5 A9	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1961

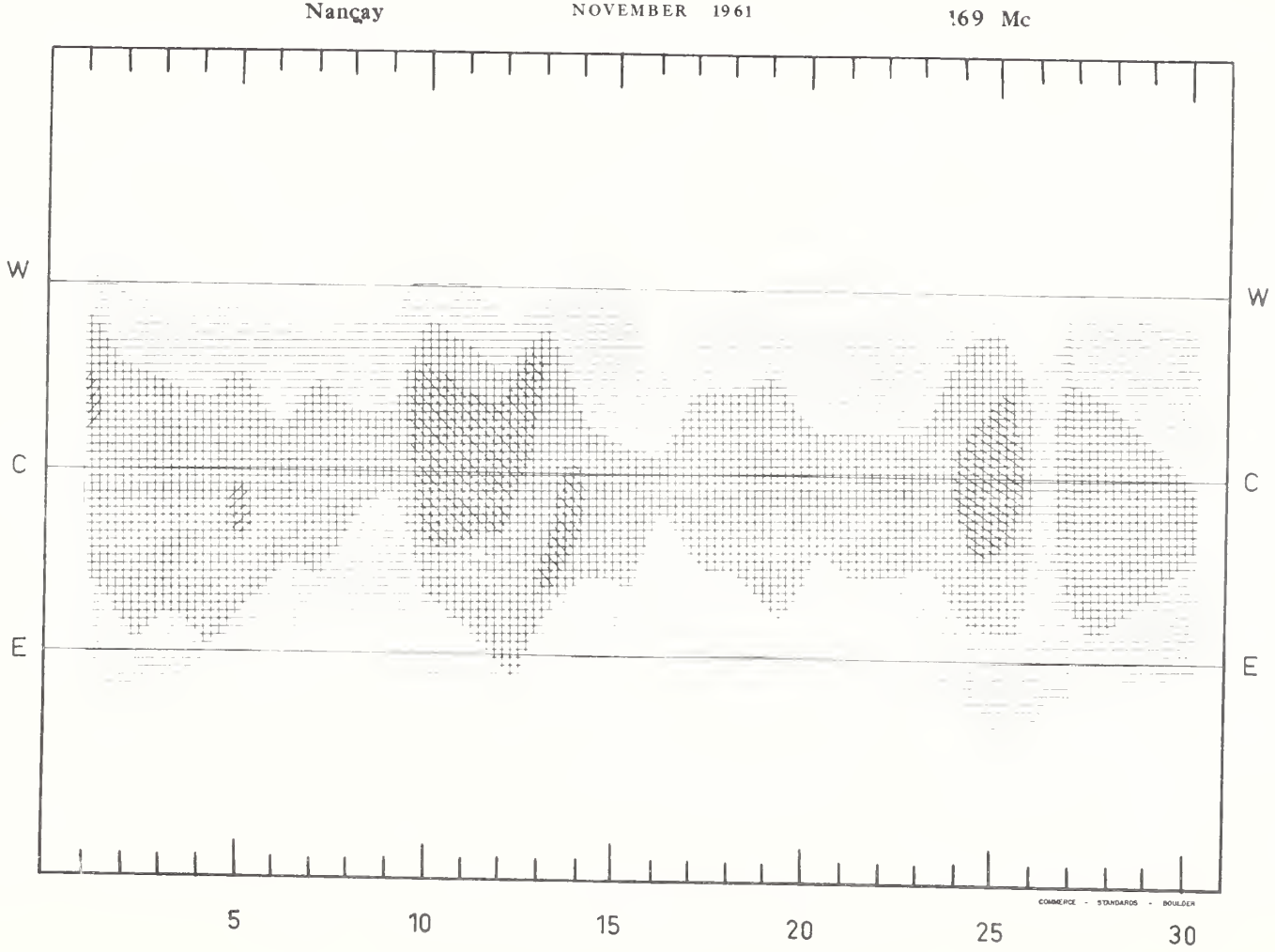
OTTAWA

2800 MC

Nov. 1961	Type	START UT	DURATION HRS:MINS	MAXIMUM			REMARKS
				TIME UT MAX	PEAK FLUX	NEAR FLUX	
6	3 Simple 3	1845	28	1850	3	1.4	
10	6 Complex f	1428	38	1444	124	46	
	4 Post Increase		2 50		8	5.5	
16	3 Simple 3 A	1527	3 43	1635	6	4	
	6 Complex	1535.8	4.2	1538	7	3	
22	1 Simple 1	1441.3	2	1441.8	3	1.5	
30	3 Simple 3	1810	2 08	1832	5	2	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS



SOLAR RADIO EMISSION

NOVEMBER 1961

BOULDER 108 Mc.

Nov. 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
3	3	1403.0	1403.4	1.0	3
3	3	1717.3	1717.9	1.0	2
4	3	1752.4	1752.8	1.2	2
8	3	1429.6	1431.1	1.6	2
10	1	1404		28	1
10	9A	1432.0	1435	5	3
10	9B	1438.0	1441	23	3
11	8	1348.0	1349.2	3.2	3
11	8	1541.5	1542.5	2.8	3

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATION

NOVEMBER 1961

BOULDER 108 MC

Nov. 1961	U.T.	Nov. 1961	U.T.
1	1334-2037; 2223-2343	16	1351-1536; 1631-2328
2	1335-2342	17	1352-2327
3	1336-2341	18	1353-2327
4	1337-2340	19	1355-2326
5	1338-1458; 1646-2338	20	1356-2325
6	1340-2337	21	1357-2325
7	1341-2336	22	1358-2324
8	1342-2335	23	1359-2324
9	1343-2334	24	1400-2323
10	1344-2333	25	1401-2323
11	1345-2333	26	1402-2322
12	1415-2332	27	1403-2321
13	1348-2331	28	1404-2320
14	1349-2330	29	1405-2320
15	1350-2329	30	1406-2320

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
SPECTRUM OBSERVATIONS

JULY 1961

Fort Davis 25-580; 1200-3900 Mc.

1961	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC	REMARKS
		TYPE	TIMES U.T	INT		
July 1	0000-0150 1210-2400					Weak I throughout day
July 2	0000-0150 1210-2400	III	1823-1825	1-3	350-25	Weak I throughout day
July 3	0000-0150 1210-2400					
July 4	0000-0150 1210-2400					
July 5	0000-0035 1225-2400					
July 6	0000-0150 1225-2400					
July 7	0000-0150 1225-2400	I I I IIIG	2020-2120 ~2120-2215 ~2215-2400 2322-2323	1- 1 1- 2	350-200 320-175 320-200 320-50	
July 8	0000-0150 1225-2400					
July 9	0000-0150 1225-2400	IIIG	1442-1444	2	350-50	
July 10	0000-0150 1226-2400					Weak I throughout day
July 11	0000-0150 1226-2400	IV II	1655-1845 1701.5-1718	1-3 3	3900-25 140-25	Weak I throughout day
July 12	0000-0150 1226-2400	I	1300-2400	1	150-25	
July 13	0000-0150 1226-2400	I	~ 1600-~1700	1	150-50	Weak I throughout day
July 14	0000-0150 1225-2400	IIIG IIIG	0025-0031 0033.5-0035	1-2 2	350-25 260-100	Weak I throughout day
July 15	0000-0150 1225-2400	I IIIG IV** I	~ 0030-0145 1433-1441 1533-1623 ~ 1540-1710	1 1-3 1-3 1-2	200-100 350-25 580- 100 300-50	IV** Continuum with Type III structure
July 16	0000-0150 1226-2400	IIIG	1259-1301	2	580-240	
July 17	0000-0150 1225-2400					
July 18	0000-0150 1226-2400	IIIG IIIG	0037-0038 1615-1618	3 3	280-50 580-25	
July 19	0000-0150 1226-2400					
July 20	0000-0150 1226-2400	IV II IV** IV IIIG	1552-1602 { 1554.3-1555.8 1557.2-1619 1607-1613* 1614-1629 2007-2008	2-3 3 3 3 2-3 3	3900-350 420-150 250-25 3900-50 3900-180 150-25	IV** Continuum with Type III structure
July 21	0000-0150 1226-2400	Uncl.	1704-1722	1-3	580-100	1704: Uncl. Resembles Type II burst
July 22	0000-0150 1226-2400					
July 23	0000-0150 1226-2400	I IIIG IIIG IV	~ 0000-0145 2129-2132 2227-2229 2347-2359	1 1 3 2-3	300-100 580-150 450-25 580-100	
July 24	0000-0150 1226-2400	IIIG IIIG I I	0118-0121 1737-1738 ~ 1925-~1945 ~2020-~2200	2 3 1 1-2	450-100 150-25 450-25 180-25	Weak I throughout day 1925: Mainly increase in continuum background
July 25	0000-0150 1226-2400	IIIG IIIG IIIG	1529-1531 1640-1643 1857-1901	2-3 2 2-3	240-25 200-25 300-25	Weak I throughout day
July 26	0000-0150 1226-2400					Weak I throughout day
July 27	0000-0150 1226-2400					
July 28	0000-0150 1226-2400					

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

JULY-AUGUST 1961

Fort Davis — 25-580; 1200-3900 Mc.

1961	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC	REMARKS
		TYPE	TIMES U T	INT		
July 29	0000-0150 1226-2400	IIIG	1643-1644	2	300-125	
July 30	0000-0145 1241-2400	II	1926.7-1930	2	180-50	
July 31	0000-0145 1240-2400					
Aug. 1	1240-2400					
Aug. 2	1240-2400	IIIG	1753-1755	1-2	250-50	
Aug. 3	1240-2400					
Aug. 4	1241-2400					
Aug. 5	1241-2400					
Aug. 6	1241-2400					
Aug. 7	1241-2400					
Aug. 8	1240-2400					
Aug. 9	1241-2400					
Aug. 10	1241-2400	IIIG	1437-1440	2	300-50	
		IIIG	1445-1447	2	280-100	
		IIIG	2141-2143	2	220-25	
		IIIG	2316-2319	1-2	450-50	
Aug. 11	1241-2400	IIIG	1301-1303	2	400-25	
		IIIG	1306-1309	1-2	400-100	
Aug. 12	1240-2400	IIIG	1613-1617	3	500-25	
		II	1618.2-1631	2	220-25	
		IIIG	1628-1631	2	240-25	
		IIIG	1711-1717	1-3	580-25	
		IIIG	1720-1723	3	150-25	
		IIIG	1811.5-1813	3	240-25	
		IIIG	2048-2052	3+	350-25	
		IIIG	2311-2314	2	500-50	
Aug. 13	1240-2400	IIIG	1516-1520	2	200-25	
		IIIG	1908-1913	3	300-25	
Aug. 14	1240-2400					
Aug. 15	1240-2400	IIIG	1454-1456	2	200-25	Weak I throughout day
		IIIG	1906-1909	1-3	350-25	
		IIIG	2018-2020	2	240-25	
		IIIG	2030-2035	2-3	400-25	
Aug. 16	1240-2400	I	1245-1320	1	300-100	Weak I throughout day
		IIIG	1827-1829	1-3	350-25	
Aug. 17	1242-2400					Weak I throughout day
Aug. 18	1240-2400	IIIG	2039-2048	2-3	180-25	Weak I throughout day
		II	2046.2-2110	3	180-25	
Aug. 19	1241-2400					
Aug. 20	1241-2400					
Aug. 21	1241-2400					
Aug. 22	1256-2400					
Aug. 23	1256-2400					
Aug. 24	1256-2400					
Aug. 25	1256-2400					
Aug. 26	1256-2400					
Aug. 27	1256-2400					
Aug. 28	1256-2400					
Aug. 29	1256-2400	IIIG	1713.5-1716	2	350-60	
		IIIG	1937-1938	3	450-60	
		IIIG	2019-2021	3	450-60	
Aug. 30	1256-2400	I	1755-1840	1-2	250-25	Weak I throughout day
		IIIG	2319-2322	3	580-125	
Aug. 31	1256-2400	IIIG	1501-1504	2	580-230	Weak I throughout day
		IIIG	1513-1515	2	500-75	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
SPECTRUM OBSERVATIONS

SEPTEMBER 1961

Fort Davis

25-580; 1200-3900 Mc.

1961	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC	REMARKS
		TYPE	TIMES U.T	INT		
Sep. 1	0000-0110 1257-2400	IIIG	2156-2158	1	300-30	Weak I throughout day
Sep. 2	0000-0110	IIIG	1403-1408	2	580-25	
	1257-2400	IIIG	1410-1416	2-3	580-25	2309: Reverse drifts 500-350 Mc
		IIIG	1432-1434	3	580-25	Weak I throughout day
		Uncl.	2043-2054	1	90-25	2043: Uncl. Resembles weak Type II burst
Sep. 3	0000-0105	I	1913-2400	1	300-100	Weak I throughout day
	1257-2400	II	2049-2055	1	200-35	
Sep. 4	0000-0105	I	0000-0100	1	300-120	Weak I throughout day
	1257-2400	IIIG	2150-2152	2	500-100	
Sep. 5	0000-0100	Uncl.	1500.6-1504	3	490-350	Weak I throughout day
	1257-2400	IIIG	1510.5-1511	2	350-125	1500.6: Uncl. Short lived continuum burst
Sep. 6	0000-0100 1257-2400	I	~1840-~2100	1	300-25	
Sep. 7	0000-0100 1257-2400					
Sep. 8	0000-0055 1840-2050 2200-2400					
Sep. 9	0000-0055 1257-2400					
Sep.10	0000-0050	IV	I937-2017	2-3	3900-2100	Weak I throughout day
	1300-2400	II	1946.5-1958	3	150-25	
			1958-2014	3	125-25	
Sep.11	0000-0050 1300-2400					Weak I throughout day
Sep.12	0000-0050 1301-2400					
Sep.13	0000-0040 1301-2400					Weak I throughout day
Sep.14	0000-0040 1300-2400					Weak I throughout day
Sep.15	0000-0040 1316-2400					
Sep.16	0000-0035 1536-2400					
Sep.17	0000-0035 1316-2400					
Sep.18	0000-0035 1316-2400	IIIG	2043-2044	1	480-240	
Sep.19	0000-0035 1316-2400					
Sep.20	0000-0030 1316-2400					
Sep.21	0000-0030 1316-2400	I	~1740-~2040	1-2	300-25	Weak I throughout day
Sep.22	0000-0030 1316-2400					
Sep.23	1316-2400					
Sep.24	1333-2400					
Sep.25	1316-2400	IIIG	1927-1930	3	240-25	
		IIIG	2357-2359	1-3	450-25	
Sep.26	1316-2400					
Sep.27	1316-2400	IIIG	1438-1442	1-3	490-25	
		IIIG	1544-1545	3	580-25	
		IIIG	1604-1609	2-3	490-25	
		IIIG	1910-1913	2	180-25	
		IIIG	1952.5-1955	3+	450-25	
		II	1956.1-2013	3	180-25	
Sep.28	1316-2400	IV**	2212-2249	1-3	3900-50	IV** Continuum with Type III structure. 2212: IV** Continues
		II	2217.4-2231	3	150-25	at low intensity until ~2340
		IIIG	2341-2343	1	380-100	
Sep.29	1316-2400	IIIG	1731-1736	1-2	75-25	Weak I throughout day
Sep.30	1316-2400					

SOLAR RADIO EMISSION

SPECTRUM OBSERVATIONS

NOVEMBER 1961

HAO BOULDER

7.6 - 41 Mc

Date 1961	Bursts				Date 1961	Bursts			
	Type	Time (U.T.)	Intensity	Frequency Range (mc)		Type	Time (U.T.)	Intensity	Frequency Range (mc)
3 Nov	III	1615.30-1615.45	1-	21 - 41	13 Nov	III	2027.45-2028	1-	29 - 41
5	III	1640.30-1640.45	1-	21 - 41		III	2034.30-2034.45	1-	26 - 41
	III	2020.15-2020.45	1-	22 - 41		III	2043.30-2043.45	1-	28 - 41
	III	2025-2025.15	1	21 - 41		III	2047.30-2047.45	1-	26 - 35
6	III	1744.15-1744.45	1-	21 - 35		III	2050.45-2051	1	21 - 41
	III	1822.45-1823	1	21 - 40		III	2056.45-2057	1-	28 - 41
	III	2106.15-2106.30	1-	21 - 36		III	2059-2059.15	1	24 - 41
8	III	1419.45-1420.30	1-	27 - 41		III	2130.30-2130.45	1-	29 - 41
	III	1430.15-1432.15	2	22 - 41		III	2134.30-2134.45	1-	29 - 41
	III	1442.15-1442.30	1	25 - 41		III	2145-2145.15	1-	26 - 41
	III	1602.15-1603.15	1-	24 - 41		III	2150.45-2151	1-	22 - 38
	III	1607.45-1608	1-	25 - 41		III	2156-2156.15	1-	20 - 41
	III	1608.45-1609	1	25 - 41		III	2224.15-2224.30	1-	25 - 41
	III	1646.30-1646.45	1-	23 - 41	14	continuum	1357-2256.30	1-	24 - 41
9	III	1630.30-1630.45	1-	24 - 36	15	III	1540.45-1541.15	1-	23 - 36
	III	1700.15-1700.30	1-	25 - 41		III	1556-1556.30	1-	28 - 36
	III	1729.45-1730.15	1	23 - 41		III	1604.15-1604.30	1-	25 - 38
	III	1745.15-1745.30	1-	25 - 41		III	1741-1741.30	1	21 - 41
	III	1747.45-1748	1-	25 - 41		III	1817.45-1818	1	21 - 41
10	II	1433.45-1509	3	21 - 41		III	1913-1913.15	1-	27 - 41
	IV	1440-1543	3	21 - 41		III	2122.15-2122.30	1-	24 - 39
11	III	1347-1347.45	1-	36 - 41	16	III	1450-1450.15	1-	29 - 41
	II	1349-1351.30	1	22 - 41		III	1456-1456.15	1-	29 - 41
	III	1542-1543.45	1+	23 - 41		III	1459.15-1459.30	1	25 - 41
	III	1627-1627.30	1	26 - 41		III	1527.30-1527.45	1-	29 - 41
12	III	1534.45-1535.15	1	27 - 41		III	1558-1558.15	1-	26 - 41
	III	1556-1556.30	1-	30 - 38		III	1558.30-1558.45	1-	29 - 41
	III	1821.30-1821.45	1-	28 - 41		III	1753.45-1754	1-	25 - 41
	III	2059.30-2059.45	1-	25 - 41		III	1833.45-1834.15	1-	22 - 39
	III	2126-2126.45	1	24 - 32		III	1858.45-1859	1-	25 - 41
	III	2134.45-2134.47	1-	27 - 41		III	1859.15-1859.30	1-	25 - 41
	III	2308.45-2309	1-	30 - 41		III	1905.45-1906	1	22 - 41
	III	2309.15-2309.30	1-	35 - 41	19	III	1414.45-1415	1-	27 - 41
13	III	1428.15-1428.30	1-	26 - 41		III	1511.15-1511.45	1+	21 - 41
	III	1432.30-1432.45	1-	26 - 41		III	1519.15-1520.15	1	21 - 41
	III	1457-1457.15	1-	26 - 41		III	1521-1521.15	1-	26 - 41
	III	1623.45-1624	1-	22 - 41		III	1552.15-1552.30	1-	24 - 41
	III	1707.30-1707.45	1-	24 - 40		III	1609.30-1609.45	1	23 - 41
	III	1722.45-1723	1-	24 - 41		III	1610-1610.15	1	26 - 40
	III	1723.45-1725.30	2	15 - 41		III	1620.45-1621.15	1-	27 - 38
	III	1752.15-1752.30	1-	23 - 41		III	1650.15-1651	1	24 - 39
	III	1808.15-1808.30	1-	26 - 41		III	1652.15-1653.30	1	19 - 41
	III	1821.45-1822	1-	27 - 41		III	1654.15-1654.30	1-	31 - 41
	continuum	1830-2230	1-	27 - 41		III	1907.15-1907.45	1+	22 - 41
	III	1844.30-1844.45	1-	22 - 41		III	2008.45-2009	1-	27 - 35
	III	1858-1858.15	1-	22 - 41		III	2029.30-2030	1-	24 - 36
	III	1910.15-1910.30	1-	25 - 41		III	2109.30-2110.30	1	22 - 41
	III	1911.30-1911.45	1-	25 - 41	20	III	1516.30-1517	1-	22 - 41
	III	1912.15-1912.30	1-	25 - 41		III	2114-2114.15	1-	32 - 41
	III	1920.15-1920.30	1-	24 - 41	21	III	1743.45-1744.15	1	21 - 32
	III	1939.30-1939.45	1-	23 - 41		III	1943.15-1944.45	1+	16 - 41
	III	1941.30-1941.45	1-	24 - 41	22	III	1721.30-1721.45	1-	24 - 41
	III	2020.30-2020.45	1-	27 - 41	29	III	2112-2112.15	1	34 - 39
	III	2021.30-2021.45	1-	27 - 41		III	2113.15-2115	1-	28 - 41
	III	2026.45-2027	1-	26 - 41	30x				

COMMERCE - STANDARDS - BOULDER

x = no observations

COSMIC RAY INDICES

(Climax Neutron Monitor)

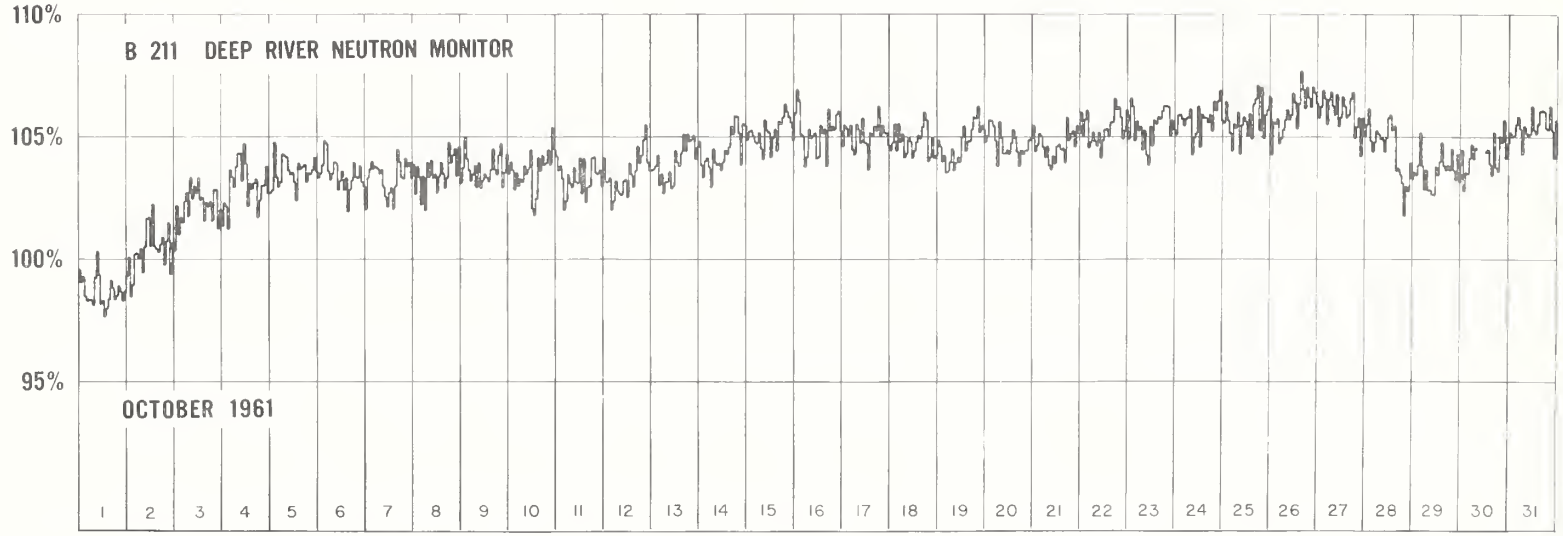
OCTOBER 1961

Oct. 1961	Daily average counts/hr.	Oct. 1961	Daily average counts/hr.
1	2894.3	16	3025.8
2	2906.5 (8 hrs.)	17	3039.2
3	2959.9 (36 hrs.)	18	3031.5
4	2967.3	19	3039.0
5	2995.9	20	3059.2
6	3005.9	21	3046.0
7	3001.6	22	3058.4
8	3009.4	23	3061.1
9	3012.8	24	3067.6
10	3014.3	25	3057.1
11	3011.4	26	3073.0
12	3022.5	27	3086.4
13	3015.8	28	3085.2
14	3022.9	29	3046.0
15	3028.8	30	3037.6
		31	3057.8

COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)



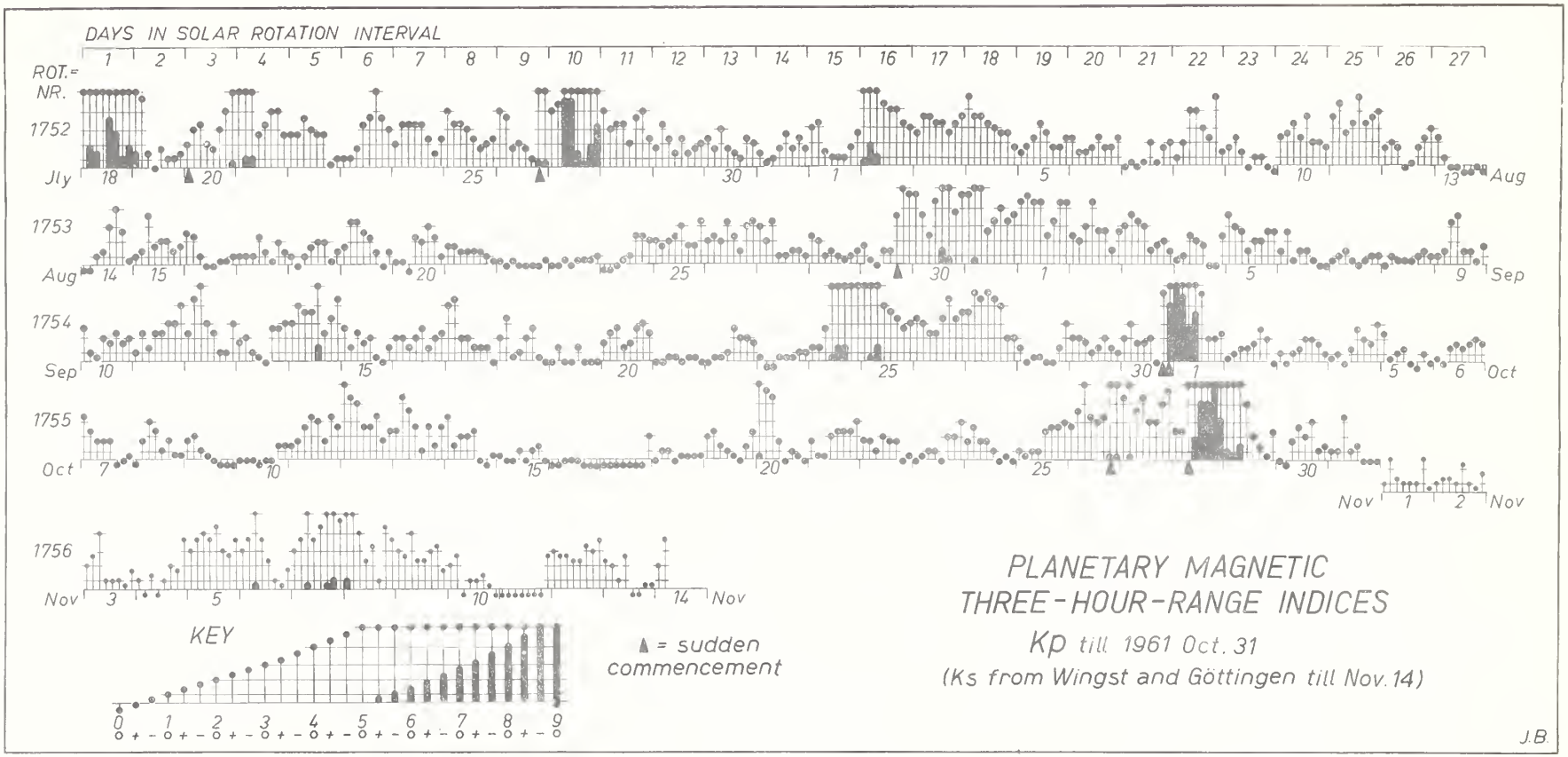
COMMERCE - STANDARDS - BOULDER

GEOMAGNETIC ACTIVITY INDICES

OCTOBER 1961

Oct. 1961	C	Values Kp Three hour Gr. interval 1 2 3 4	5 6 7 8	Sum	Ap	Final Selected Days
1	1.8	9- 8+ 7o 8-	5- 2o 2o 2+	43-	114	Five
2	0.3	1- 1o 1+ 1+	2- 3- 2o 0+	11o	6	Quiet
3	0.2	1o 0+ 1o 1+	2o 2o 2- 1o	10+	5	
4	0.4	1- 1o 0+ 1+	3- 2o 2- 3o	13-	7	10
5	0.1	2+ 1- 1o 1+	0+ 0o 1o 0+	7o	4	15
						16
6	0.3	1- 0+ 1+ 2-	1+ 2- 2o 2-	11-	5	17
7	0.3	3+ 2+ 2- 2-	2- 0o 0+ 1-	12-	6	18
8	0.1	0o 2- 3o 2+	1o 2- 1- 1-	11o	6	
9	0.0	2- 2o 1o 1-	0+ 0o 0o 0o	6-	3	
10	0.0	0+ 0+ 0+ 0o	0+ 0+ 1+ 1+	4+	2	
11	0.8	1+ 2- 3- 3+	3o 2- 3+ 3-	20-	12	Five
12	1.0	5o 4+ 4o 3-	3- 3+ 2- 2+	26o	20	Disturbed
13	0.8	2+ 4+ 4- 3-	1o 3- 1+ 3-	21-	14	
14	0.4	3+ 1+ 2o 2o	2+ 0+ 0o 1-	12o	6	1
15	0.0	1- 0+ 0+ 1o	0+ 1o 1+ 0+	5+	3	26
						27
16	0.0	0o 0o 0+ 0+	0+ 0o 0o 0o	1o	1	28
17	0.0	0o 0o 0o 0o	0o 0o 0o 2o	2o	1	29
18	0.0	0+ 1o 1o 0+	1- 1- 1- 1-	5+	3	
19	0.3	2o 2+ 1+ 1o	1- 0+ 1+ 2+	11+	6	
20	0.8	5+ 5- 4+ 2-	0+ 1o 1- 0+	18+	18	
21	0.6	2- 1- 1- 2o	2+ 2+ 2+ 3o	15o	8	Ten
22	0.2	2- 2- 1o 2o	2- 2- 0+ 1-	11-	5	Quiet
23	0.3	0+ 1- 1o 1o	0+ 2o 2o 3o	10+	6	
24	0.1	2- 3- 2- 2-	1o 0+ 1- 0+	10o	5	3
25	0.6	1o 1- 1o 1o	2+ 3- 3- 3o	14+	8	5
						6
26	1.4	3- 4- 5o 3+	3o 3+ 5+ 5+	32-	31	9
27	1.3	4+ 5+ 4- 4+	3o 3o 4o 5-	32+	30	10
28	1.9	2+ 2+ 5o 6+	8o 8o 9- 7+	48o	128	15
29	1.3	6- 5+ 6o 4o	2o 1+ 1- 2+	27+	32	16
30	0.3	0+ 0o 2- 3-	2o 3o 1o 1+	12o	6	17
31	0.1	1o 1o 3+ 1o	1+ 0+ 0+ 0+	9-	5	18
						31
Mean:	0.51			Mean:	16	

COMMERCE - STANDARDS - BOULDER


DAYS IN SOLAR ROTATION INTERVAL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
ROT.= NR.
1752
Jly 18 20 25 30 1 5 10 13 Aug
1753
Aug 14 15 20 25 30 1 5 9 Sep
1754
Sep 10 15 20 25 30 1 5 6 Oct
1755
Oct 7 10 15 20 25 30 Nov 1 2 Nov
1756
Nov 3 5 10 14 Nov
KEY
0 1 2 3 4 5 6 7 8 9
▲ = sudden commencement
PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp till 1961 Oct. 31
(Ks from Wingst and Göttingen till Nov. 14)
J.B.

COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

OCTOBER 1961

NORTH ATLANTIC

DATE OCTOBER 1961	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF				WHOLE DAY INDEX	ADVANCE FORECAST* (J-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY:					GEOMAGNETIC K_{FR}	
	00 TO 06	06 TO 12	12 TO 18	18 TO 24	00	06	12	18		1-7 DAYS FINAL J_S	1-7 DAYS	1-3 DAYS	1-7 DAYS SDW J		HALF DAY (1)	(2)
01	1+	1+	4o	3+	2	1	2	3	(2+)	3		3	6		(7)	3
02	2-	2o	6o	6-	2	2	5	5	(3o)	4		4	6		1	1
03	6-	4-	6+	6+	2	3	6	6	5o	4	4		6		1	1
04	6o	5-	7-	6o	6	4	6	6	6-	6	6		6		1	2
05	6-	5o	7-	6o	6	5	6	6	6-	6			6		2	0
06	6-	4+	6+	6+	6	5	6	6	5+	6			6		1	1
07	6-	5+	7-	6+	6	5	6	6	6o	6			6		2	1
08	6+	5o	7-	7-	6	5	6	7	6o	6			6		2	2
09	6o	5o	7-	7-	6	5	7	6	6o	6			6		1	0
10	6+	6-	7-	7-	6	5	7	7	6+	6			6		0	1
11	7-	6-	7o	6+	6	6	6	7	6+	6			6		2	3
12	5+	5o	6+	5+	6	4	6	6	6-	6			6		(4)	2
13	5o	5+	6+	6-	6	4	6	6	6-	6			6		3	2
14	5+	5o	6+	6+	6	5	6	6	6-	6			6		2	0
15	6o	6-	7-	6+	6	5	7	6	6o	7			7		1	1
16	6+	6-	7-	7-	6	6	7	6	6+	7			7		0	1
17	6-	6-	7-	6+	6	5	7	7	6+	7			7		0	1
18	6o	6-	7-	7-	6	6	7	7	6+	6			6		2	1
19	6o	6-	6+	7-	6	6	7	7	6+	6			6		2	2
20	5+	5o	7-	6+	6	5	6	6	6o	6			6		(4)	1
21	6-	6-	7-	7-	5	4	6	6	6o	5			5		2	2
22	6-	5+	7-	6+	5	4	6	7	6o	4			4		1	1
23	6o	6-	7-	7-	6	5	7	6	6+	4			4		1	2
24	6o	5+	7-	7-	6	6	7	6	6+	4			4		2	1
25	6+	6-	7-	7-	6	6	7	6	6+	5			5		1	2
26	6o	5o	6+	5-	6	6	6	6	6-	6			6		(4)	3
27	3+	4+	6o	4+	3	3	5	6	(4+)	6			6		(4)	3
28	4-	4+	4-	2+	4	3	3	3	(3+)	6			6		(4)	(7)
29	2-	2+	6o	5+	1	1	4	5	(3+)	3	3		6		(5)	2
30	5-	4-	5-	5-	5	3	6	5	(4+)	4	4		6		1	2
31	4o	3-	6-	5o	4	4	5	5	(4o)	6	6		6		2	1
Score: Quiet Periods P					17	11	15	16		14			14			
S					7	10	13	12		7			7			
U					0	1	0	0		0			0			
F					1	0	1	0		3			3			
Disturbed Periods P					4	2	0	1		2			0			
S					2	7	0	1		2			0			
U					0	0	1	0		0			0			
F					0	0	1	1		3			7			

NORTH PACIFIC

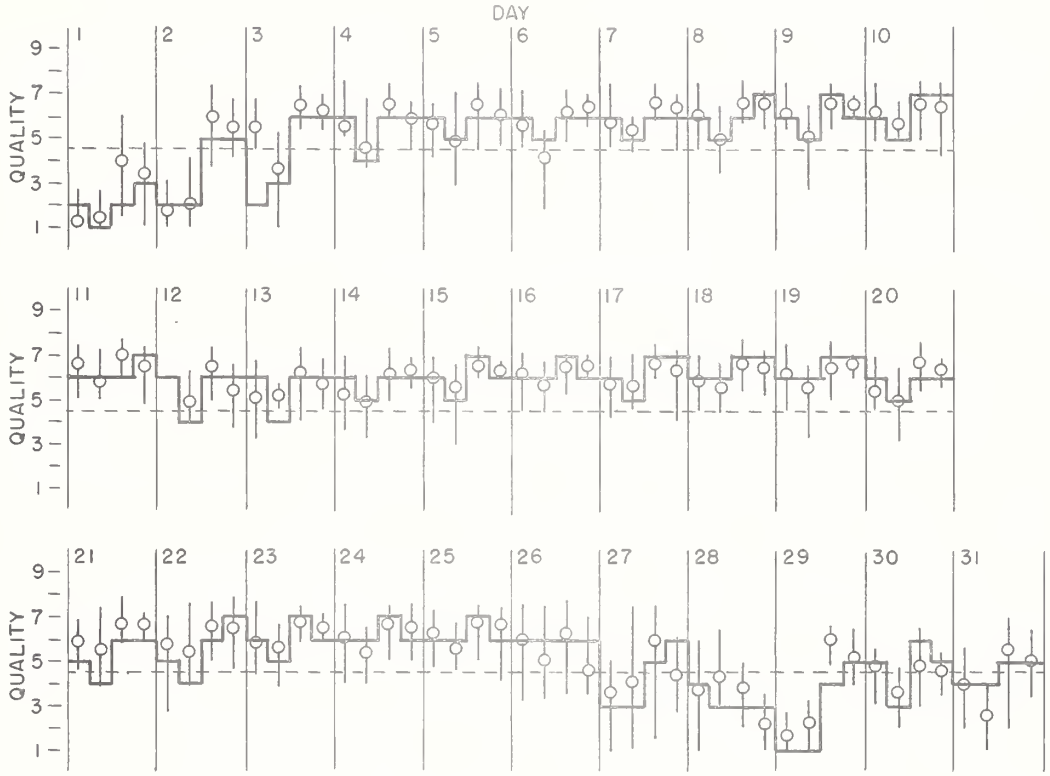
NORTH PACIFIC 12-HOURLY QUALITY FIGURES			SHORT-TERM FORECASTS ISSUED AT		WHOLE DAY INDEX	ADVANCE FORECASTS (Jp-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY					GEOMAGNETIC K_{SI}	
0700 TO 1900	1900 TO 0700		0600	1800		1-7 DAYS FINAL J_{PS}	1-7 DAYS	1-3 DAYS	1-7 DAYS SDW J_P		HALF DAY (1)	(2)
3	5		2	4	(4)	3		3	6		(9)	3
6	4		5	5	5	4		4	6		1	1
5	5		5	5	5	5	5		6		0	1
5	5		5	4	5	5	5		6		1	2
6	6		5	6	6	5			5		1	0
6	6		5	6	6	5			5		1	2
6	6		5	6	6	6			6		2	1
7	7		5	7	7	6			6		2	1
5	6		6	6	6	6			6		0	0
7	6		6	7	6	5			5		0	0
7	6		6	7	7	5			5		2	2
6	6		6	6	6	6			6		(4)	2
6	5		5	6	6	6			6		3	1
6	6		6	6	6	7			7		2	1
6	6		6	7	7	7			7		1	0
6	7		6	7	7	7			7		0	0
7	7		7	7	7	6			6		0	0
6	7		7	7	7	6			6		0	1
7	6		6	7	7	7			7		1	0
7	5		4	6	7	6			6		(4)	0
6	6		6	5	6	4			4		0	2
6	6		6	5	6	3			3		1	1
5	7		6	6	6	4			4		0	1
6	6		6	6	6	5			5		2	0
5	6		5	6	6	6			6		2	2
6	5		6	6	6	6			6		(4)	(4)
5	5		4	5	5	6			6		(4)	3
3	2		5	3	(3)	6			6		(4)	(8)
5	4		2	5	(4)	6			6		(4)	1
4	4		5	4	(4)	6			6		1	1
5	5		4	5	5	6			6		2	0
			12	16		11						
			13	11		12						
			1	0		1						
			2	0		3						
			0	1		0						
			2	3		1						
			1	0		0						
			0	0		3						

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

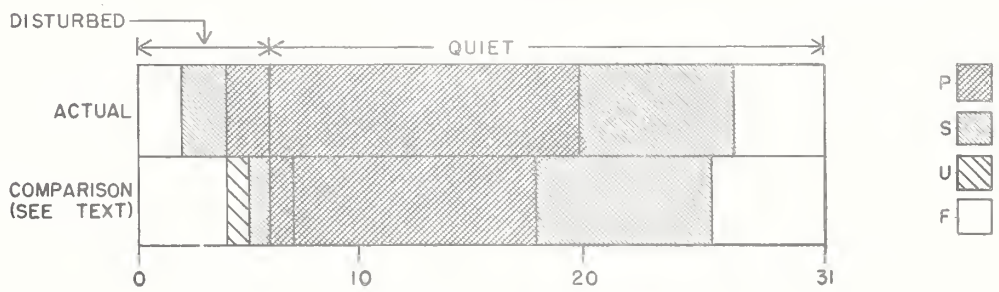
OCTOBER 1961

— Short-term forecast
o Quality figure
| Range of reports

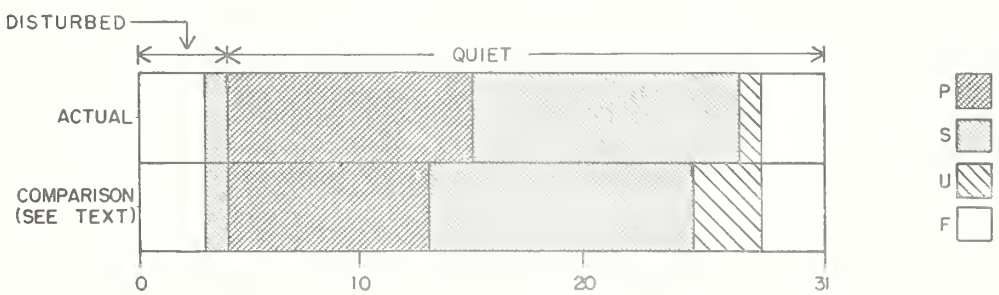


OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE

NORTH ATLANTIC

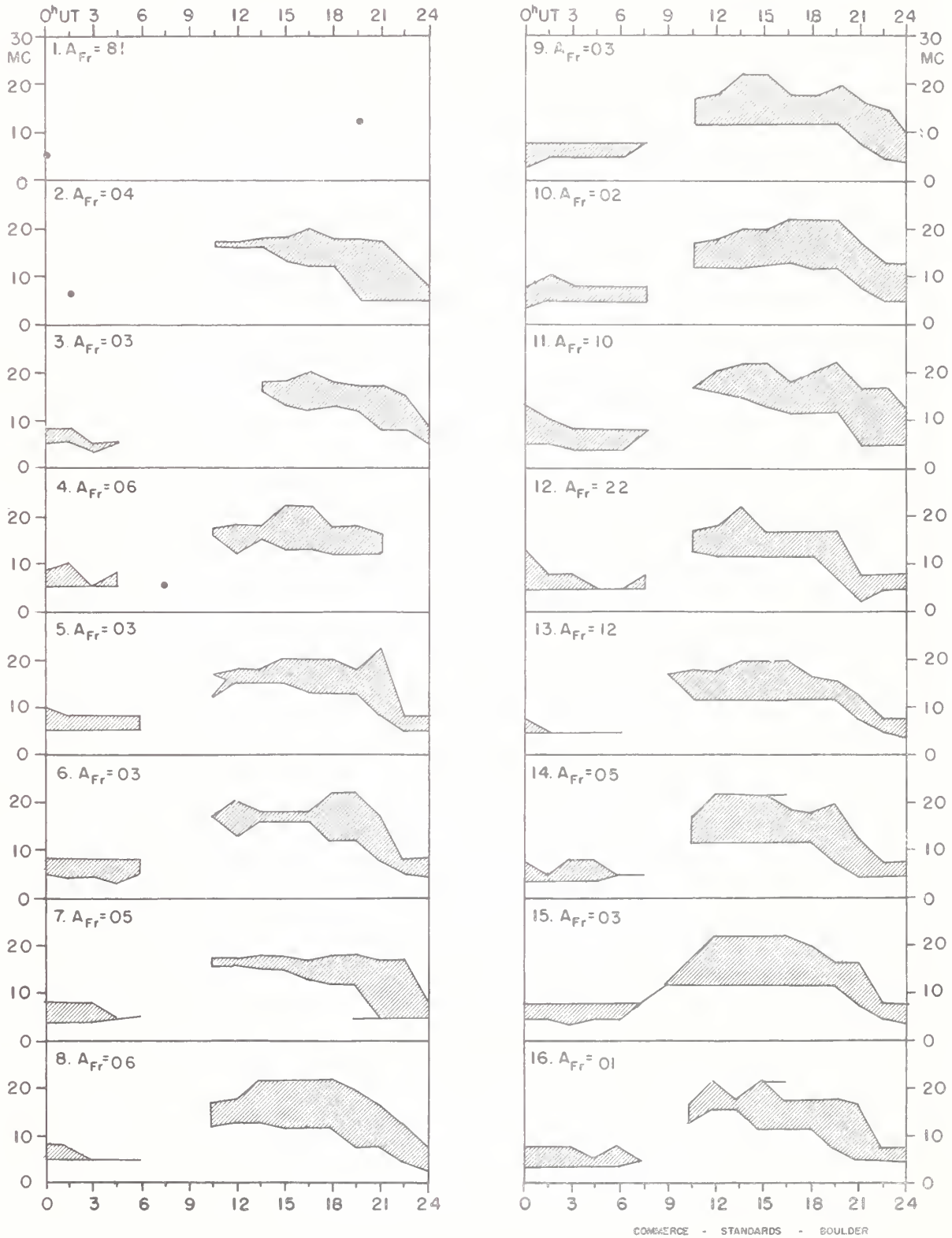


NORTH PACIFIC



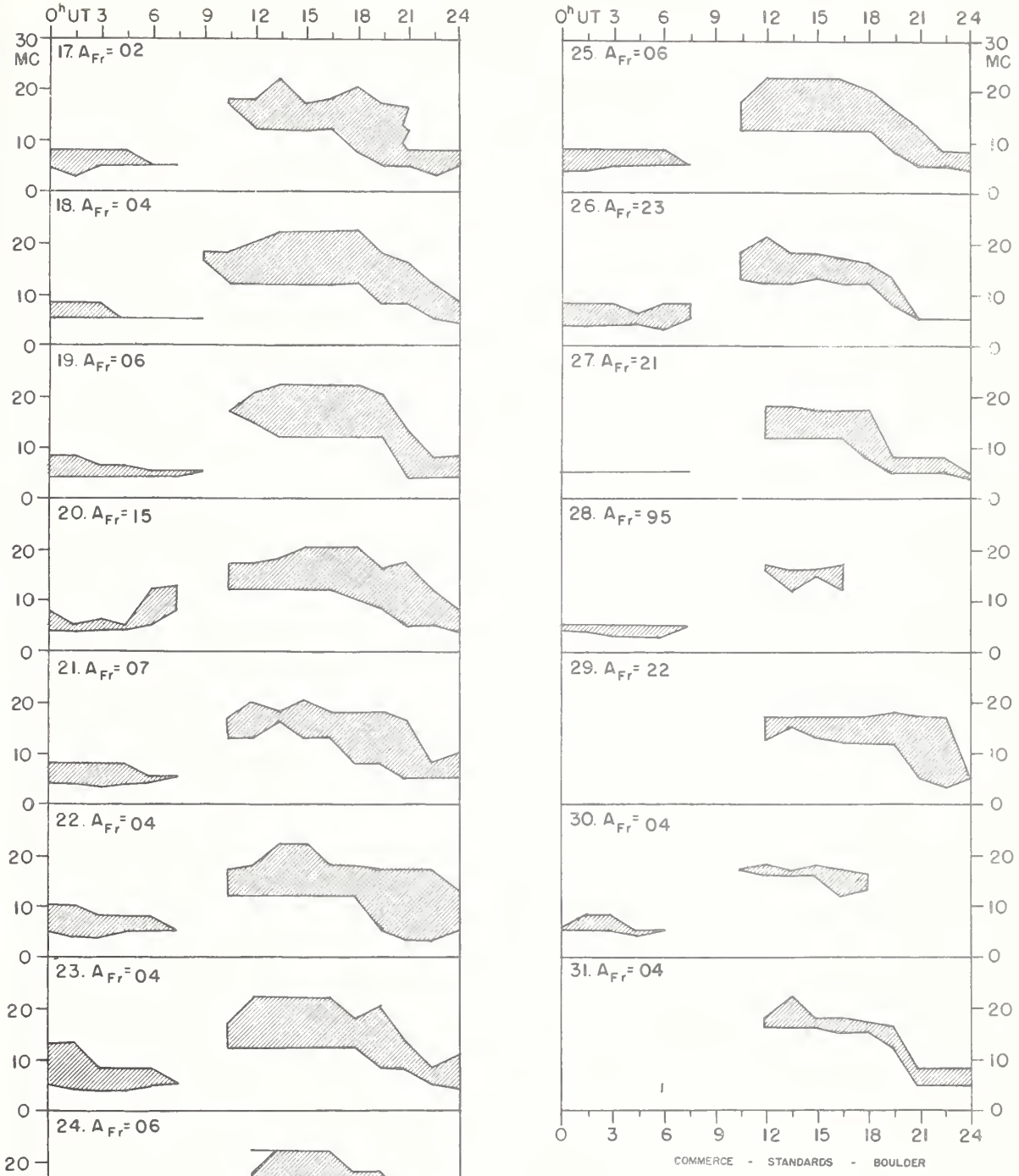
USEFUL FREQUENCY RANGES - NORTH ATLANTIC PATH

OCTOBER 1961



USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1961



Adapted from Observations by Deutsche Bundespost

NOVEMBER 1961

Issued November 1961 Day/Time UT	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Intervals
03/1600		151		Start (Predicted)
04/1600		152		Finish (Predicted)
07/1600		153	Magnetic Storm 06/23XXZ	
10/1610	Sac Peak* Solar Flare 10/1540Z			
18/1000	Ft. Belvoir Magnetic Storm 17/13XXZ			
18/1600		154	Magnetic Storm 17/14XXZ	
23/0315	Climax Solar Flare One Plus 22/1527Z			
30/2251	Sac Peak Solar Flare, Two 30/2135Z			

COMMERCE - STANDARDS - BOULDER

*Adalert message erroneously indicated observing station was AGIWARN (Ft. Belvoir).

USCOMM-NBS-BL